Agriculture Cost of Production

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Objectives

Provide developing countries with relevant and implementable **guidelines** on the:

- Collection;
- Compilation; and
- Dissemination of **CoP statistics**

**Internationally comparable statistics on agricultural CoP**
Uses of cost of production statistics

**Government level**
- Basis for economic analysis
- Basis for effective policy-making
- More efficient resource allocation
- Better program-targeting of farmers

**Economic operator level**
- More efficient markets
- Better decisions by farmers (input use, commodity specialization etc.)
- Better decisions by input producers
<table>
<thead>
<tr>
<th>Uses of cost of production statistics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Taxation</strong></td>
<td>• Morocco introduced a <strong>tax on agricultural activities</strong>. CoP statistics are essential to set tax rates, estimate distribution effects (winners, losers) and costs &amp; benefits (to the treasury and economy).</td>
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<tr>
<td><strong>Price support schemes</strong></td>
<td>• <strong>India</strong> uses its annual CoP estimates <strong>as a basis</strong> to set the level of <strong>price support mechanisms</strong> for the different crops.</td>
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<td><strong>Subsidies</strong></td>
<td>• CoP estimates are one of the main information sources for the setting of <strong>EU direct subsidies</strong> within the Common Agricultural Policy.</td>
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<tr>
<td><strong>Total Factor Productivity (TFP) index</strong></td>
<td>• the EU started to compile a TFP index as one of the main indicators to evaluate the new Common Agricultural Policy (CAP). Data on intermediate consumption and input costs are critical for such and indicator.</td>
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</table>
Outputs and indicators

**Economy-wide**
- Agricultural GDP/Value-added
- System of Environmental-Economic Accounts for Agriculture (SEEA-Agri)

**Crop/activity-level**
- Technical coefficients (cost structure)
- Gross and net economic margins
  - Benchmarking indicators
  - Best practices

**Farm-level**
- Pollution cost abatement indicators
- Multi-factor productivity
- Farm income
- Household food security indicators
Examples

Structure of costs – Philippines (2012)

Source: CountryStat /Philippines Statistics Authority
Outputs and indicators

Examples

Labor costs (share in total costs) – Philippines (2012)

Source: CountryStat /Philippines Statistics Authority
Outputs and indicators

**Examples**

Economic profitability (Peanuts) – Philippines (2012)

Source: CountryStat / Philippines Statistics Authority
Outputs and indicators

Examples

Cumulative distribution of Cost of milk operations, by US region, 2000

Main methodological questions

Data collection strategies

Collection of farm-level data

- Sampling survey approaches
- Typical farm approaches
- Administrative information
- Combination of data sources

TRADE-OFFS

- Costs of the program
- Relevance and accuracy of the data
- Representatvity of the indicators
CoP Dimensions & estimation of costs

<table>
<thead>
<tr>
<th>Total costs</th>
<th>Variable costs</th>
<th>Fixed costs</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Cash Costs</td>
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<td></td>
<td></td>
<td>Capital costs</td>
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<tr>
<td></td>
<td>Purchased seed, feed fertilizers, etc.</td>
<td>Depreciation costs and opportunity costs of capital on owned machinery, buildings and farm equipment</td>
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<td></td>
<td>Paid labour</td>
<td></td>
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<td></td>
<td>Custom services (machinery, etc.)</td>
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<tr>
<td></td>
<td></td>
<td>Non Cash Costs</td>
</tr>
<tr>
<td></td>
<td>Unpaid (family) labour</td>
<td></td>
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<tr>
<td></td>
<td>Farm – produced inputs</td>
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<tr>
<td></td>
<td>Owned animals and machinery</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Farm overhead costs</td>
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<tr>
<td></td>
<td></td>
<td>Unallocated fixed costs</td>
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<tr>
<td></td>
<td></td>
<td>Farm – level taxes, permits licenses, etc.</td>
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<tr>
<td></td>
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<td>Land Costs</td>
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<td></td>
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<td>Land rents and imputed rents, land related taxes</td>
</tr>
</tbody>
</table>

... and what about joint inputs?
Main methodological questions

Estimation of costs

Imputation of costs for inputs when

- Inputs are produced on the farm (feed, manure, etc.)
- Inputs are owned by the farm (family labor, land, etc.)
- Payments are made in-kind
- Information on costs is not available or usable

Question: what to do when markets for these inputs do not exist?

Principle: Use of market prices for similar inputs
Main methodological questions

Allocation of costs

Farm-level costs need to be allocated to each activity/commodity when:

- The farm produces more than one commodity
- Inputs are jointly used by multiple activities

Multiple allocation methods

- Based on area harvested
- Based on gross revenues, ...
- Based on econometric techniques

Questions: should costs be always allocated? What are the negative implications of these allocations?
Process and organization

Combined effort

Project team

Statistics Division of FAO

Friends of the Chair (group of experts)

National and international consultants

Country participants (NSOs, agriculture departments, etc.)
Progress & achievements to date

2009 (AFCAS Ghana)
- Study of country experiences in cost of production and price statistics; request to initiate work on CoP

2011 (AFCAS Ethiopia)
- 1st EGM on CoP with country case-studies (Mali, Zambia, Ethiopia)
- FAO mandated to: administer a global survey on country CoP practices; prepare a Handbook on CoP statistics focused on developing countries

2012
- CoP included as research activity of the Global Strategy
- APCAS Viet Nam: 2nd EGM on country practices in CoP; presentation of an annotated outline of the Handbook

2013
- Literature review on CoP prepared by the EU-JRC
- 3rd EGM in Rome: discussion of the first draft of the Handbook and preparation of the field tests
- AFCAS Morocco: presentation of the outputs and objectives
Progress & achievements to date

2014
- APCAS Lao PDR: presentation of CoP outputs and objectives
- Testing CoP at country level: 3 Country Case Studies:
  - Philippines: Overview of existing CoP program
  - Colombia: test of Private sector Coffee CoP
  - Tunisia: development and focus group testing of questionnaires for cereals, dairy, olives
- On-line publication of draft CoP Handbook/guidelines, for feedback

2015
- Final EGM on CoP Handbook and country case-studies
- Presentation to Global Strategy’s Scientific Advisory Committee
- Revisions to CoP Handbook and Case Studies
Next milestones

2015

- Publish CoP Handbook
- Public Country Case Studies
- Develop training materials
- Deliver regional workshops
  - In Africa - led by African Development
  - In Latin America and the Caribbean

Future Opportunities

- Develop CoP module for AGRIS
Proposed Recommendations

It is recommended that:

1. Member states endorse the Agricultural Cost of Production Guidelines as recommendations for implementing and estimating Cost of Production statistics, and FAO continue production of CoP training materials.

2. FAO, in collaboration with a regional organization, deliver a Cost of Production workshop in Latin America and the Caribbean in the next year.
For more information ...

... please contact

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Thank you