# SAM-BasedAccounting Modeling andAnalysis Sudan 2000 

Presented $\mathfrak{B y}$

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## Introduction

- In Sudan the share of agricultural exports out of total exports is declined from $80 \%$ in 1998 to $6 \%$ in 2008.
- The agriculture remains the backbone of the economy as it:
- Contributes about $40 \%$ of the GDP (2000-2008).
- Employs about 55\% of the labor force and
- Supports the industrial sector with raw materials
- The aim of the research is to examine the nature of the multiplier effects of an income injection in the total outputs of the different production activities on Sudan economy.


## Research $\operatorname{Methods}$

- SAM multiplier model has been used to determine the total effects that arise from an exogenous shock.
- The SAM used in this research is an aggregated version of Sudan SAM for year 2000. Sudan SAM 2000.doc
- The SAM multiplier formula can be calculated as follows:

$$
Z=(I-M)^{-1} E=M a * E
$$

where
$Z$ : is a vector of endogenous variables;
$E$ : is a vector of exogenous variables;
M : is the matrix of average propensities of expenditures for endogenous accounts;
I : is the identity matrix and
Ma or $(I-M)^{-1}$ : is the matrix of aggregate accounting multipliers.

## ModelResults

- Table 1: Multiplier effect (SD billion) of Exogenous Shock on Endogenous Accounts

| Accounts |  | Commodities |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| households |  |  |  |  |  |
| Activities | Agric. | 2.12 | 1.34 | 1.23 | 1.40 |
|  | industry | 0.58 | 1.57 | 0.60 | 0.69 |
|  | service | 1.82 | 1.82 | 2.63 | 2.11 |
| Commodities | Agric. | 2.38 | 1.51 | 1.38 | 1.58 |
|  | industry | 0.63 | 1.72 | 0.65 | 0.75 |
|  | service | 2.10 | 2.11 | 3.05 | 2.44 |
| Factor of prod. | lab | 0.79 | 0.81 | 0.86 | 0.77 |
|  | cap | 2.35 | 2.14 | 2.15 | 2.05 |
| households |  | 2.99 | 2.81 | 2.86 | 3.69 |

## ModelResults

- Table 2: Impact of Total Multiplier on Output, GDP, Household Income and Consumption

| Multiplier | Commodities |  |  | Household |
| :--- | :---: | :---: | :---: | :---: |
|  | Agric | industry | service |  |
| Output | 4.51 | 4.74 | 4.46 | 4.20 |
| GDP | 3.14 | 2.95 | 3.00 | 2.82 |
| Household income | 2.99 | 2.81 | 2.86 | 3.69 |
| Consumption | 5.12 | 5.34 | 5.08 | 4.77 |

