

The Namibian Social Accounting Matrix 2013

A presentation at the
Green Hydrogen Conference

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The Social Accounting Matrix

- Reflects the circular flow of income in an economy from the origin in an industry through the factors of production to households
- Depicts the linkages in an economy between the various industries (activities), markets (commodities) as well as factors of production (labour, capital), savings/investment and Rest of the World (exports, imports)
- Consists of equal number of rows (sales to other industries and final demand) and columns (input structure of industries and consumption patterns of households)

The Social Accounting Matrix - 2

- The total amount of a specific sector or hhd in a column (input) must equal the total amount of this sector in the row (output)
- Updated every five to ten years because of changes in technology and in relative prices over time

Macro SAM

						FINAL EXPENDITURES					
		PRODUCTION		FACTORS		INSTITUTIONS			CAPITAL	ROW	
		Activities	Commodities	Labour	GOS	H'holds	Govt	Enterprise	Investm.	Rest of World	TOTALS
PRODUCTION	Activities		211 537								211 537
	Commodities	93 968				82 414	34 929		30 968	54 453	296 731
FACTORS OF PRODUCTION	Labour cost	53 391								67	53 458
	GOS	63 151								1 822	64 973
INSTITUTIONS	Households			53 337		509	13 175	37 995			105 016
	Govt	1 028	9 164			12 160		8 281		16 026	46 659
	Enterprises				62 015		2 450				64 465
CAPITAL	Savings					8 649	-4 870	18 189		9 000	30 968
ROW	Rest of World		76 030	121	2 958	1 284	975				81 368
TOTALS		211 537	296 731	53 458	64 973	105 016	46 659	64 465	30 968	81 368	

- Activities – entities carrying out the production
- Commodities – Markets for goods and services
- Factors of Production (labour, capital), Rest of the World (Imports, exports), etc.

Brief description of 2013 SAM

- Activities & Commodities: 37 industries and 37 products
 - Factors of production: skilled and unskilled labour, mixed income (agriculture), capital (Gross Operating Surplus)
 - Households: Six categories based on consumption – three rural, three urban: low, middle, high consumption
 - In addition
 - Government (Row represents taxes [income] collected by Government)
 - Investment / Savings
 - Exports / Imports
- Matrix consists of 98 columns and 98 rows

Data sources

- Aggregate data:
 - National Accounts (NSA)
 - NHIES 2009-10 for household consumption
 - Balance of Payment (BoN)
- Detailed intermediate consumption:
 - Survey: 26 returns
 - Industry interviews: 36
 - Companies' Annual Reports: 12
 - South African coefficients for six industries (textiles, leather, wood, paper, chemicals, fabricated metals)

Application to Green Hydrogen Roadmap

Monasa Advisory & Associates and Mc Kinsey have teamed up to develop the GH Roadmap for Namibia. This includes a socio-economic impact analysis.

- Create three new industries and three new products:
 - Renewable energy sector (wind & solar) / product
 - Desalinated water sector / product
 - Green hydrogen sector / product
- Conduct industry interviews to establish intermediate consumption of these industries and electricity mix (solar and wind) for GH production
- Assume increase in GH output to the expected level of first year production, but deflate to 2013 prices

Results derived from SAM application

- Multiplier analysis (GDP, Output): Total economic impact (direct, indirect, induced) of a change in demand by NAD1.
- Impact on economic growth (GDP) and sectoral growth
- Impact on distribution of income through factors of production to different household categories and hence on income inequality
- Identify potential areas of policy interventions
 - Strengthen backward- and forward linkages, increase value chains
 - Mitigate undesired impacts on household income distribution

Thank you for your attention!

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