



United Nations
Statistics Division

Improving data quality and coverage on the impacts of biofuels consumption on various key sectors (Health, Environment, GDP, Employment, Education)

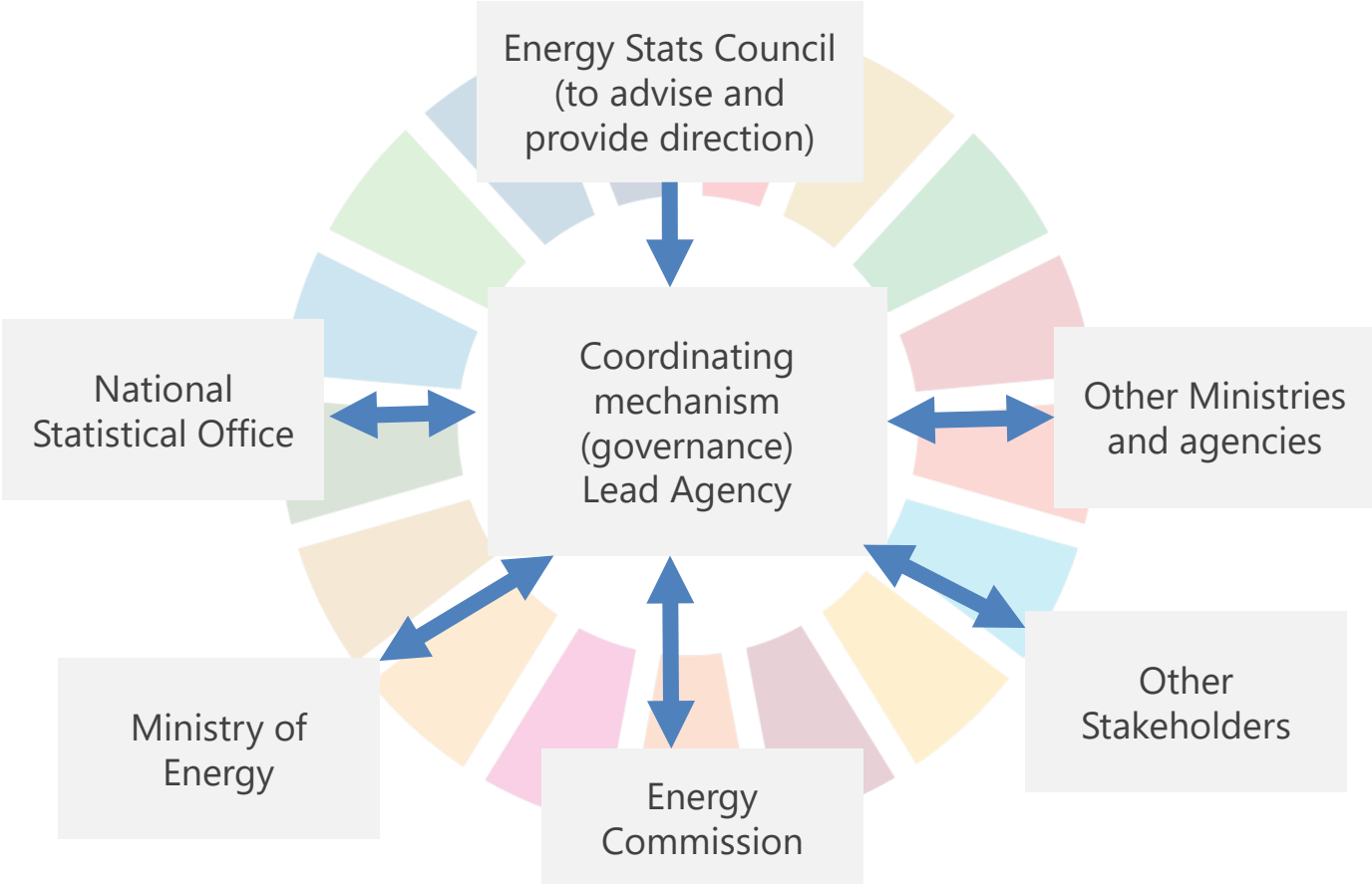
Leonardo Rocha Souza

Workshop on the Strategic Framework for the African Bioenergy
Data Management
24-26 April 2023 | Lomé, Togo

Socio-economic data related to bioenergy



Institutional arrangements – national energy statistical system



Institutional arrangements among many relevant agencies

- For the collection, compilation, standardization and integration of information scattered among different entities.
- For the dissemination of the compiled statistics to users through a coherently networked information system or a central energy database.
- Institutional arrangements should promote harmonization with international standards and recommendations to enable the collection of high-quality and internationally comparable official energy statistics.
- A key element of the institutional arrangements is the establishment of a clear, efficient and sustainable system of governance of the national system of energy statistics.
- It is vital that all stakeholders are actively involved through an appropriate interagency coordination mechanism
- Efficient institutional arrangements:
 - minimize the data collection cost by avoiding duplication of work;
 - enable the sharing of good practices
 - reduce response burden.

Data collection to serve policy needs and promotion of sustainable development

- Is the data I'm looking for available somewhere?
 - (administrative data, other institutions, business associations)
 - If so, how fit for purpose is it? If not...
- Before data collection starts, know how it will be used. What purposes? What policies is it trying to link to?
 - If a policy exists, how can you best measure its effects?
 - Maybe it will be used to decide which policies are going to be pursued.
 - Own production of fuelwood to be included in national accounts.

If policy exists, how to best measure its effects?

- Ex: policy on substitution of stoves/cooking fuel
- What is the targeted result? Reduce indoor pollution? Better health for women? Less deforestation? To free potential productive time? All of the above?
- Collect all relevant data together.



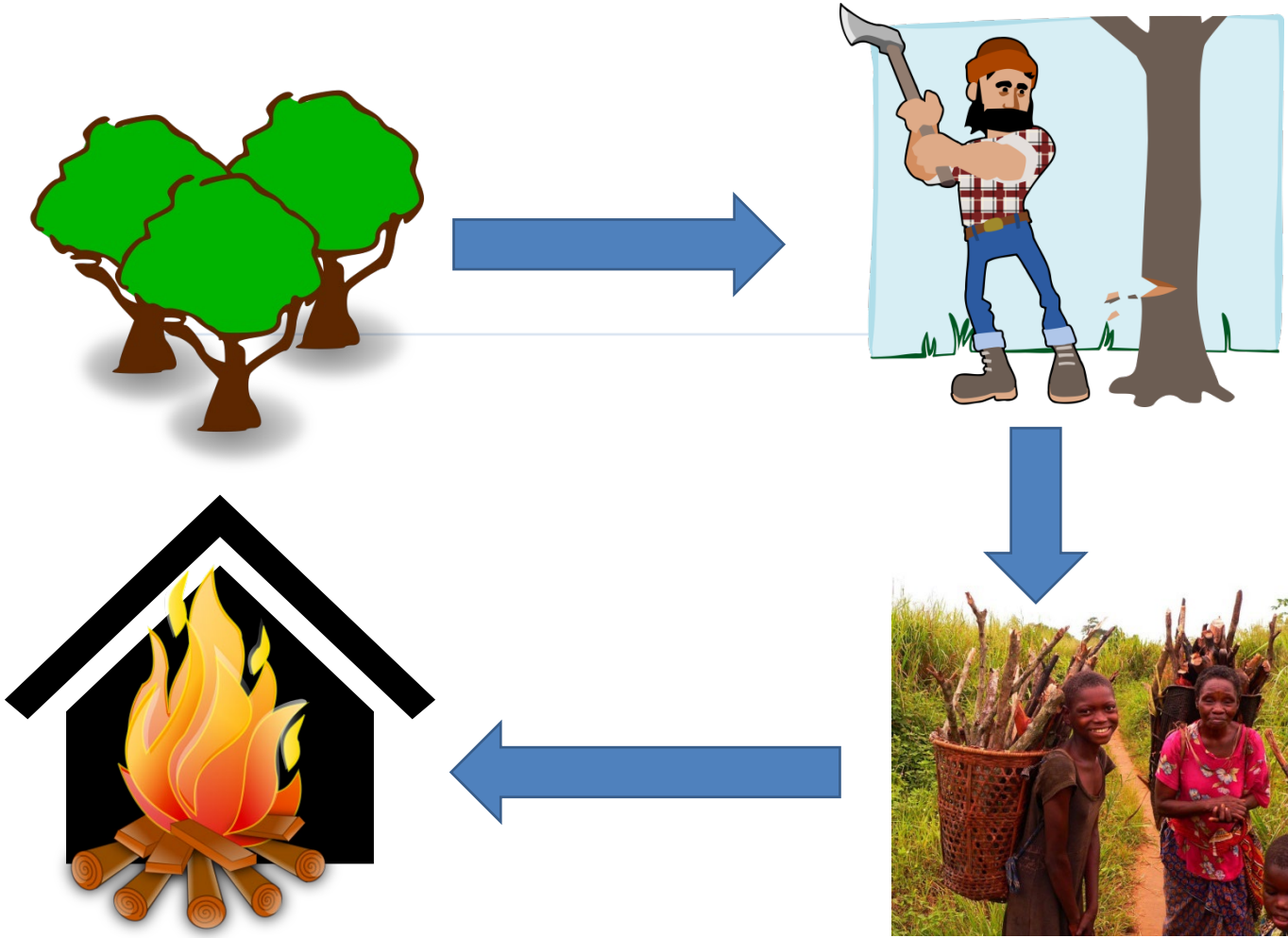
Will it be used to decide on policies?



- Example: Time-use household survey to try to identify gender or other socioeconomic issues related to bioenergy collection/cooking
 - Use ICATUS for comparability and replicability
 - Collect data on all other aspects of concern:
 - Incidence of violence against women/children collecting wood,
 - Respiratory health and/or indoor pollution,
 - Lost economic opportunities, etc.



Environmental-Economic data: use same data sources.



Data relationships

- Try to collect related data in a same survey (if a survey is conducted), or over the same sample for the same time period (respecting confidentiality)
 - This way, relationships can be analysed
 - Monitoring/evaluation: easier to assess whether policies are having the intended results (if so, public support; otherwise, time to tinker with the policies).
- Geospatial analysis can help link results from different surveys. Take that into account before undertaking your data collection.

Ex: Rwanda's National Domestic Biogas Programme

- NDBP: biogas for cooking and lighting + fertilizer.
- Goal to reduce or replace fire wood (for health reasons? To avoid deforestation?). Also energy access? Targets?
- Plan data collection in order to inform the goals: quantitatively!



Ex: Rwanda's Improved Cookstove Dissemination Program

- The overall objective of the program is to reduce the amount of biomass energy used for cooking.
- Contribution towards the vision 2020 goal to reduce the consumption from 80% to 50% of the national energy consumption.



Portable Canarumwe and Tekavuba liners



Fixed Canarumwe in the Kitchen



Rwanda Improved Canamake



House hold Rocket stove



Canarumwe Cladded



Muyaga Volcanic stove



Charcoal Briquette stove



Inyenyeri Phillips Stove Distributed by Inyenyeri Project



Volcanic Rock Stove from Musanze District



Ecozoom Stove Distributed by Delagua

WHO proposed survey for SDGs 7.1.1 & 7.1.2

- Questions are available in three versions: a list, a matrix, and a concise matrix, similar to the format used in DHS and MICS surveys.
- All three versions of survey questions capture the same key data:
 1. fuels and technologies used the most time for cooking, heating and lighting (i.e., primary reliance);
 2. all other fuels and technologies used by the household for cooking, heating and lighting;
 3. electricity access in the household;
 4. time use and health impacts (these questions are recommended for inclusion in the household roster portion of a full household survey).

WHO proposed survey for SDGs 7.1.1 & 7.1.2

- Time-use and health questions: to be included in the household roster asked at the start of the survey, rather than in the household energy module, for each person!
 - In the past day, how much time, in total hours, has [NAME] spent cooking (e.g., food, tea, boiling drinking water) for household consumption?
 - In the past week, how much time, in total hours and including travel time, has [NAME] spent gathering, collecting or purchasing fuels for household cooking, heating or lighting?
 - Did [NAME] experience eye irritations or eye problems while at home during the past two weeks?
 - Did [NAME] experience burns related to cooking, heating or fuel during the past two weeks?
 - Did [NAME] experience poisoning(s) from liquid fuel during the past two weeks?

WHO proposed survey for SDGs 7.1.1 & 7.1.2

- In addition to survey questions, additional documents:
- *Household Energy Use Survey Question Guide*, designed for statistical agencies and programs using the questions to understand the importance of each survey question, and how to calculate relevant indicators.
- *Household Energy Use Catalog*, which includes a detailed descriptions of all answer options for the survey questions, including pictorial guides.
- *Household Energy Use Survey Questions: Interviewer Manual*, which is designed for use in enumerator training, and as a reference tool for survey teams both preceding and during data collection.

FAO survey on Woodfuel

- FAO survey focus on woodfuel energy
- As such, it covers the topic more thoroughly, including (self-)production, sales, purchases, transformation
- Monetary values (spent and earned) through sales of wood and charcoal
- Flash cards are suggested on types of charcoal kilns/ovens, stoves and appliances.
- Also includes a guide, a glossary and a manual for enumerators.

Quality reviews

- Quality reviews can be done in the form of:
 - Self-assessments (comprehensive, systematic),
 - Audits (comprehensive, systematic, done by a third party), or
 - Peer reviews (more informal; done by a third party).
- Promote the identification of improvement actions/opportunities in processes and products.
- Some form of quality review of energy statistics programmes should be undertaken periodically,
 - E.g., every four to five years; or
 - More frequently, if significant methodological or other changes in the data sources occur.

Final remarks

- Follow international guidelines as much as possible, ensuring comparability and replicability
- Prioritize the quality issues based on their impact on the aggregate data.
- Unlikely to correct all issues related to quality in the timeframe allotted, so it is good practice to focus on those issues that have the most impact.
- Metadata

