

# VITAL SIGNS

## HUMAN WELL-BEING AND LIVELIHOODS WORKSHOP

International Food Policy Research Institute  
Washington, DC  
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The overall goal of the workshop was to discuss and refine VITAL SIGNS (VS) human well-being and livelihood (agriculture) threads.

The specific objectives of this one-day workshop were to:

- Reach consensus on the key human wellbeing, livelihood and agricultural intensification indicators for Vital Signs.
- Discuss the sampling framework and its implications to household level sampling and gathering data for the threads.
- Refine the threads working from the measurements/observations to analytics and then integrative indicators. This refinement should draw on existing tools, processes and data and adapted as necessary given the VS framework and objectives.
- Identify existing protocols
- Develop working group to further develop sampling protocols and analytics for VS project.

### WORKSHOP SUMMARY

**Sampling framework:** Initial comments focused on the sampling framework and improving the definition and discussion of the “Tiers” and how they relate to one another, or not. More specifically, clarity is needed in terms of what relationship VS is trying to make between the 10X10 landscapes (Tier 4) to the regions (Tier 1 and Tier 2). The sampling for biophysical properties is perhaps more evident but the social science and household survey sampling needs to be made more explicit. The main message to come out of the discussion was that the Tier 4 - 10kmX10km landscapes are not random and not nested within the coarser scale sampling framework so the conclusions made from these Tier 4 landscapes cannot be extrapolated to the Tier 2 level but instead should be viewed as ‘case studies’ within the larger framework where process studies can be conducted to look at some of the causal links within these landscapes. The Tier 4 landscapes and measurements are not to be seen as monitoring impact of

agricultural intensifications. These comments will be addressed in the final version of the sampling framework.

**Indicators and Threads:** Indicators and threads presented during the workshop included: food security, nutrition and health, poverty, and agricultural intensification. Other proposed threads which were discussed briefly were women empowerment in agriculture index (index developed by USAID & IFPRI), human capital, labor, and education.

- A general comment concerned how these indicators fit in with the on-going process of the post 2015 agenda and indicators that will be developed. We need to link with some of the groups involved in this process.

A summary of recommendation for the threads are as follows:

Food Security thread needs to examine how to adapt the Global Food Security Index, which is a national level indicator, to subnational, specific localities by eliminating some of the national level modules, but keeping the three pillars of food security (availability, access and utilization) represented. Recommendations were also made to explore some new sets of questions used by the FAO & WFP (based on the FAO/ FANTA 2007 modules). [Roseline Remans is following up]

Nutrition and Health thread needs to consider how to use Tier 2 level data and link it to Tier 4 landscapes through exploring existing representative data available at Tier 2. Nutrition should look not only at children under 5 years of age but also represent adult nutrition issues such as BMI (body mass index). DALYs are not broadly used and are difficult to find adequate data for at the subnational level. Suggestions were made to use simple reported disease incidence data from DHS (e.g. prevalence of diarrhea, malaria and anemia) for the Tier 2 level and explore qualitative measures such as the self-reported disabilities and adjusted living standards for the Tier 4 level. [Ro and Mark Musumba to follow up].

Poverty thread: Tier 2 existing national data should be used as much as possible for expressing poverty in the regions. These Tier 2 data can be used to explore a reduced set of consumption modules for estimating poverty at the Tier 4 landscape level – otherwise the cost is likely prohibitive. A suggestion was made to use the national level LSMS indicators for each site. The modules may be slightly different among countries but they will lead to consistent indicators. Issues were also raised on why the need for a monetized poverty measure; we could also explore other non-monetized indices like an asset index and multidimensional poverty measures. The measurement of an asset index is included in the current version of the poverty thread. [Kyle DeRosa and Mark Musumba to follow up]

Agricultural Intensification Thread should focus on a 'Yield Target' instead of a 'Yield gap'; the yield target should not be the biophysical potential but a more realistic target based on the socioeconomic and biophysical conditions of a site. The targets could be attained and modeled through various agricultural intensification strategies – this makes the agricultural intensification thread and yield target a bit different from the other threads – in that there are multiple options. Inputs and management practices from Tier 2 and Tier 4 surveys and measurements can be mapped into the crops simulation models. Suggestions were made to choose a number of crops that may be of main focus as to assess both yield target and agricultural intensification.

It is not clear if an agricultural intensification index per se will be useful but we do need to capture both the input and output sides of intensification. IFPRI is working on this through the Africa Rising project. [Cheryl Palm to follow up]

Other suggested threads:

- Education thread should be compatible with the human development index. Another aspect to consider as an indicator of education is the use of information in agricultural management.
- Women empowerment in agriculture index (WEAI): IFPRI and USAID work in Uganda, Ghana, Tanzania, and Ethiopia is relevant here and data will become available for the USAID target regions, that largely overlap with our regions of focus. There will be national studies in several of the VS countries; the data could be used at the Tier 2 level. A remaining question is if we also collect additional data at the Tier 4 level for assessing women empowerment. One option here is to collect some qualitative measures at the community level rather than adding the whole set of WEAI questions to the Tier 4 level module [Roseline to follow up]

There were a number of take aways, follow-up, and next steps from the workshop:

- Food security threads needed to consult further with the Economic Intelligence Unit (EIU) on this thread: a follow-up meeting with EIU helped to further revise and fine-tune this thread and come up with an updated version that takes into the recommendations from the meeting at IFPRI as well as the from the follow up meeting with EIU in New York. EIU also kindly made available some of their excel file including data and information feeding into the construction of some of the food security modules.
- Participants indicated that they would make available the scripts for the poverty estimations in some regions (Tanzania) and the LSMS survey excel templates.

- Partner with Africa Rising on farm level modeling and M&E. Contact the IFPRI participants about the local survey teams with experience in Tanzania since they are working on projects in Kilombero (TZ) and the Upper East and Upper West regions in Ghana. Open communication with the IFPRI persons at Harvest Choice on agricultural intensification mapping and crop yield modeling.

#### Next Steps

- Refine and finalize threads.
- Setting up detailed protocols.

## Agenda with notes from participants

### PROGRAM

#### **9:00 – 9:15am: Overview of Vital Signs (Cheryl)**

- Introduction of participants

#### **9:15 – 9:30am: Indicators**

*Are these the key indicators we need? Anything critical missing?*

- Proposed looking at existing indicators to try and mirror them to VS indicators. Post MDG 2015 indicators and DFID draft of indicators. DFID indicator draft may be out in spring 2013.

#### **9:30 – 10:00am: Vital Signs sampling framework**

*Can the indicators be developed within this sampling frame?*

- Critical to keep in mind cost implications of different threads
- Important to note that: Tanzania (SAGCOT) area is very diverse; Ghana (SADA) is more homogeneous than SAGCOT); Ethiopia sites are yet to be determined and will be decided at the stakeholders workshop in December.
- How does one link the Tier 2 plots to Tier 4 households?
- What are you linking at Tier 2 and Tier 4 and at what point (time, space)?
  - Can sampling units at tier 2 be part of the 10X10 tier 4?
- How important is the whole land scape (SAGCOT)? and How are the clusters representative of SAGCOT or do they stand alone?
- What can one obtain from these clusters to tell a story about the Corridor given that it is heterogeneous?
  - At tier 2, can we use data to say something about the corridor (correlations)?
  - At tier 4, use data to understand some of synergies and tradeoffs (processes)?
- Household changes (mobility) are going to affect an already small sample of say 8 households. How do you use existing infrastructure to take advantage of that data?
- Would be better to do a count & listing of households in 10x10 rather than rooftops. Important to get it right, not to do it rushed.
- Another proposition is to do a count at this level and clearly define the households since some households may have fields that lie on the boarder of outside the 10X10KM landscape.
- Clarification: LSMS does measure plots.
- Some areas in the region are large scale farms. What do you deal with these?

- Do you collect data for households even though the plots lie outside the 10X10KM landscape? Example was that in Uganda about 30% of plots fall outside the enumeration area households (persons) reside in.
- Why not explore going to 1X1KM areas to get the household to be? Due to density issues.
- If plots of a HH that is inside the 10x10 but a plot of the HH is outside the 10x10, then you also include that plot. To manage the HH selection, it is also a possibility, to draw a 1x1 (3x3) km to select the HH, and then the plots that fall into the 10x10
- How do you plan to capture continuously cropped harvest data from crops like cassava and bananas?
- At tier 2 - to identify land cover - what are we collecting at the plot level: plant density, crop type, soil sampling, soil cover, trees
- Suggestion of need to consult a sampling expert on the representativeness of the clusters to the area of study (SAGCOT) to avoid making assertions about the representativeness of the clusters to the region.
- The main concern in terms of cost for enumeration teams in TZ will be staffing costs
- Overlapping
  - Ethiopia has enumerators in the field for almost 7 months at a time year round
  - Tanzania does not have much overlap

**10:15 -12:00pm: Threads Session: Food security, Nutrition, and Health**

*Discuss options, modules and scale/ resolution*

***Nutrition and health thread***

- Can we say something about the 30 households with in the 10X10 area?
- Representativeness of sample
  - Look at existing DHS survey in TZ for data
  - National Panel Survey (NPS) for households may work
- Look at when the next surveys are happening
- Can explore the welfare monitoring survey in Ethiopia that is linked to consumption? May have more data to use
- Talk to GAIN or look at their work
- Explore collecting or checking hemoglobin – feeding practices
- Question: What the health issues are for the area of study? Then consider data to be collected.
- Look at existing data on; expenditures and deaths
- What additional data can we collect at the 10X10 landscape?
- Try to link Tier 2 data to Tier 4 level which may be very interesting
  - Disease prevalence at tier 2 compared to tier 4

- Anthropometry is only a subset of health and we can look at;
  - Self-reported disabilities
  - Activity adjusted living standards
  - Health behavior instead of outcome (subjective reporting)
- Look at self-reported work by Gary King at Harvard
- Health and effect on labor productivity and availability.
- DALYs will be difficult to use as an indicator and not widely used by the Bank.

### ***Food security thread***

- Look at the drivers of food security (not just outcomes) as well as effects of prices.
- How do you adapt the food security index to corridor and landscape level?
  - Need to eliminate some modules
- What is the nutritional quality of the food at the country level?
- Affordability: household surveys (FAO), poverty line measure, food safety net program
- Vulnerability assessment
- One needs to validate the Food Index indicator with the countries specific need since these may vary.
  - Protocols on which questions to pick and what food items.
  - Look at triangulations of consumption data
  - Crops that contribute about 90% of the diet so that you can scale down on survey modules
  - Minimum cost diets
- Explore using the food score index
- FAO – new food security subjective FANTA type questions
  - GALOP may add 2 pages of questions on food security. Try to work with GALOP to increase their sample size.
- What is feasible in ones setting? Need to be very specific
  - You can either replicate what is available
  - Country specific validation that matches corridor level survey
- FEWSNET – FAO: Does this provide a local market price?
- Food infrastructure: food storage losses. Try to measure production losses from previous period/season.

**12:00 – 12:30pm: Thread Session: Income**

*Discuss income, consumption, and asset based alternative measures in human well-being.*

### ***Poverty thread***

- Why use a monetized index?
- Aren't there other non-monetized measures to use?

- Asset index, multi-dimensional poverty measure?
- Ethiopia one used a short consumption survey (Plan C)
  - Ethiopia rural socio-economic survey (ERSS) reduced consumption modules
- Tanzania used Plan B. - Used a condensed version of national survey in order to fit their poverty thread.
- Avoid need to replicate national poverty methodology because it's difficult to do and would still not obtain the same output.
- May use the National Panel Survey, take out or add modules.
  - May explore using the food and non-food consumption modules and leave them intact (case of Tanzania).
  - Possibly durable asset ownership
- Available documentation on data analysis from reports under NADA. STATA 'do-file' are available but not sure if they can be shared.
- Ethiopia Central Statistical Agency (CSA) has poverty estimations for Ethiopia.
  - CSA gave files to DFID so it may be available if we requested
- Appropriate recall period for household food consumption
  - Suggested a 7 day recall period
- Possibility of using cellphones to record recall data on consumption.
- Address seasonality since NPS is over 12 months period
  - Work by Emmanuel Skoufias on smoothing consumption across seasons.
    - "Consumption smoothing during the economic transition in Bulgaria"
- In Ethiopia, households are visited multiple times per year.
- Plan A (National teams over sampling cluster in 10X10) might be possible in Ethiopia and Ghana (2014,2018).
- 'do-files' for estimating poverty index in Tanzania are available but Ethiopia may be available after reports are released.
- Take Away
  - Plan A may not be feasible in Tanzania; Plan A may be feasible in Ghana
  - Can use existing data from NPS survey for corridor to get representative and robust income expenditures.
  - Ethiopia there is a possibility of using Plan C.
  - Experience of Tanzania survey
    - Use a reduced consumption module
  - Existing resources of estimation files and also survey instruments that we can follow up and obtain from participants

**2:30 -4:00pm: Thread Session – Agriculture**

*Discuss Yield Potential, Agricultural Intensification, Nutrient Budgets, Soil Health*



### ***Agricultural intensification***

- Are we looking at the process of intensification or a measure of intensification?
- What do we know about the current agricultural system? --Shape our discussion and describe the key indicators of intensification.
- Definition: increased output per unit area (hectare) over a given time (year).
- Look at productivity – input output ratio not only of land but other inputs i.e. ecosystems services.
  - May look at bundle of ecosystems inputs or disaggregate them.
- Unit for measurement – farm/plot level (Africa rising); input or output?
- Variability because of environmental conditions -> in resilience thread.
- Look at labor as an important input
- Consider environmental impact of inputs and outputs at different times.
- Look at information as an intensification driver
- Need to choose items or crops or inputs to monitor
  - May use food security as a basis for measurement
    - For example - Maize production in Ethiopia
  - Need to explore data to see what crops are grown in these regions (staples and cash crops)
  - Need to link this to the agro-ecological system
- Crop models may give estimates of changes in practices and effects on yields and other outputs
  - Look at other models at the landscape level
- Use agricultural indices and map them to regional transitions
- Overlay Carlos's intensification index with the intensification index from the output perspective
  - Yield or economics output per unit of land
  - Water extracted
  - Nutrient extracted
  - Biomass
  - 6-7 output variables from harvest choice
  - Idea is mixing this field based data with these data

### ***Yield Gap***

- Why not call it 'Yield Target' instead of 'Yield Gap'?
- Use 2 – 3 key food commodities for the national yield target. – New technology
- Normalizing data
- NUANCES meeting on January 21-22<sup>nd</sup> in Nairobi on African farming system modeling may have similar data that we are looking for on agricultural intensification.
- SAGCOT

- Next steps
  - Link this to Africa Rising since they plan on also doing surveys in Tanzania
  - Potential overlap with VS sites in Tanzania. Same case for Ghana and Ethiopia
    - May overlap or 10X10 overlap villages
  - This week African Rising will finish their M&E plan
  - There is some money left over from USAID project -----
- Follow up:
  - Cheryl would work on the Yield Target thread
  - Share documents on Africa Rising M&E plus slides
  - Gero and Kathleen would get protocol on plot and soil sampling (with Keith Shepjerd)
  - Get Cheryl on M&E invitation list

**What are other human wellbeing threads that should be included? Women Empowerment index, Labor, Education, Human Capital?**

***Women empowerment index – existing data***

- Africa Rising countries – FEEDBACK project/ consortium –
- Ghana, Tanzania, Ethiopia, Malawi, Uganda - through USAID - Alan Debrou at IFPRI
- Bureau of food security at USAID has a unified baseline survey – Emilie Hawk
- Look at women’s education level
- Access to child care

***Human capital***

- Education – Look at the Human development index
- Women’s education
- Labor?
- Access to technology
- Explore technology adoption
  - Extension services
  - HYV

***Multi-dimensional poverty index – also take into account***

- Access to technology, extension,
- Microfinance index – market access, financing
- In TIER 4: happiness??

**4:00 – 5:00pm: Next steps**

***Follow up Next steps***

- Health and Food security – regroup with EIU & some other people to finalize – list per country what is available
- Income - look at do-files
- Agricultural intensification – Africa Rising connection
- Setting up measurement protocols and threads
- Timelines: threads finalized by the end of December/ January
- Write detailed protocols for measurements and analytics
- Start training teams in mid-March to go to the field
- Carlo in contact with local survey team with experience in Tanzania
  - Have projects in Kilombero (TZ) and the Upper East and Upper West regions of Ghana

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