**The objective is foremost about commercializing the dairy sector in the context of SAGCOT**

*Point taken. Here and elsewhere I will use this terminology (e.g. commercialization).*

And commercialization allows auxiliary industries to develop (e.g. dairy services sub- sector)

*This is true and is something to be included in the discussion section. This study is not specifically concerned with the dairy upstream from the farm, but specifically how farms of given characteristics would respond to changes in external/exogenous market or policy conditions. Other authors (e.g. the ones referred to in the intro) have pointed out that the informal sector, comprised of a large number of small agents, is not well suited to providing inputs and service provisioning that a large processor, such as Tanga or ASAS, can provide. So the discussion section will touch on this.*

Presumably there is some degree of reverse causality here. E.g., more productive dairy farmers are more likely to have a surplus and produce consistent quality that facilitates (formal) market participation

*This is true, so this statement can be re-worded as simply stating that providing the opportunity for households to participate in markets is a means of promoting practice adoption and reducing the CF.*

**May be good to reflect on Jevon’s paradox here to bring in the necessary nuance (and elsewhere in the paper especially wrt intervention options); specifically, that intensification alone is unlikely to significantly curb forest encroachment and degradation without complementary land use planning and management initiatives.**

*This is true, and I agree that it should be a focal point of the paper, namely that intensification will reduce emissions intensities but only under certain conditions would it result in declines in absolute emissions. In the next paper version I will devote some of the intro to this.*

Add references. The literature also points to capacity constraints, resource limitations, conflicting livelihood priorities and attitudinal factors. Of particular relevance to this study is household preparedness to (re)allocate finite land, labor and capital resources in the context of diversified livelihood portfolios and perception of opportunity costs.

*In the next version I will add relevant references here.*

Is this true? Usually, contractual agreements with processors involve service provisioning in return.

*Yes, it’s true that contractual agreements usually come bundled with service provisioning. But the point of this paragraph is to reflect on the factors that are most important in driving producer upgrading. The argument that I’m making is that households are not likely to upgrade simply on the basis of improved access to inputs and services, and that the conditions with respect to the sale of milk (e.g. is it sold formally or informally), as has been argued by previous authors, is an essential factor driving (or preventing) upgrading.*

**Dairy intensification deserves to be better problematized in the introduction. This relates not only to Jevon’s paradox, but also to the issue of trade-offs. Specifically, the issue of diverting land, labor and capital from other productive activities (notably cash and food crop production) to upgrading of dairy and associated implications for, for example, food and nutritional security, household resilience (e.g. associated with specialization processes), (gendered) change in overall labor burden and overall household income. Can a win-win outcome be achieved where upgrading facilitates upwards mobility, while reducing emission intensities and pressure on forests?**

*Point taken. With the next version of the paper I will aim to devote more discussion in the intro to these tradeoffs.*

**While the first research objective is certainly interesting and important, I would personally place more emphasis in this paper on trade-offs and whether uptake of CSA practice can also be pro-poor. I think that speaks more to emerging policy discussions on CSA.**

*The paper does consider household income as a model output, and the model could be extended to consider a food/nutrition security indicator to ascertain a more thorough assessment of the resulting livelihood impacts. My reasoning for making this a research objective is because previous ex-ante studies on CSA adoption do not consider output related risk.*

How will this be estimated?

*The model will be calibrated to observed cattle numbers (e.g. number of cattle of different cohorts) and land use. As has been done previously, the risk aversion coefficient is calibrated to these observed values (i.e. the risk aversion is chosen so that the deviation between the modelled and observed values are minimized).*

I would very much like to see household labor included here; probably in conjunction with likelihood of resolving human capital constraints through hiring labor. Just as important as land in my opinion.

*Labour is included as a household constraint, it just isn’t described in this section. However, given that this section is on household resource endowments it likely should also discuss labour.*

This is a flawed assumption. Looking at the data that just came in, 69% of households only own improved breeds. Of those households, only 33% of farmers exclusively stall feed.

*This won’t be difficult to change, as it just requires specification that improved animals receive part of their feed intake from grazing.*

You need to account for timber. About of quarter of sampled households to date own woodlots. With Njombe still to be surveyed, I suspect this proportion will go up. Therefore, it’s an important land use, with household presumably facing a choice whether to replant at maturity or convert to fodder production. Whether choosing the latter is an economically sound decision is worth exploring, especially seeing that from a food security perspective it may be desirable to sacrifice woodlands over croplands.

*Timber production can be included as a household activity for cash income; it will be required that the returns to land, labour, and capital questionnaire has ample sample size for timber production though.*

This is not supported by the data. Legumes, oilseeds and roots/tubers are an important source of income (see for example potatoes as the primary cash crop at higher elevations). Similarly, banana is in some areas an important source of food: the people of Rungwe are popularly referred to as the “banana-eaters”.

Suggest that you use survey results to parameterize the sell-consume decision.

*For this and the above comment: the survey can be used to identify the major components of the diet, and this can be used with the expenditure system to specify production and consumption (or market purchases) on different food categories. This would be done using the data provided by Chongela et al. (2014) on household food and non-food expenditure.*

Depends on the crop – for tea for example it only really becomes productive after 3 years. If you include timber in the land use calculus then a 7 to 10 year time-step would be appropriate

*The lifetime of these cropping activities (plus timber) can be set based on what the typical production length is. So this will just be a question of how the model gets coded.*

Also consider residues from pruning of banana plants being used as feed.

*Good point.*

I would be careful with these assumption. Suggest using data from survey results

*As much as possible, the consumption, income, and livelihood strategies will be obtained from the survey.*

Again, I would emphasize the issue of trade-offs instead

*See general comments above about the overall research goal.*