Key issues discussed during the development of the draft standardized baselines for "Fraction of non-renewable biomass in Myanmar"

1. In the course of developing the standardized baselines, the following issues were identified and discussed with the DNA.

(a) The 1st version sent by the DNA on 13 November 2019:

(i) The units used for the values of firewood production, charcoal production, All woody biomass consumption for non-energy applications are not clear. According to the original sources i.e. 2017 Myanmar Statistical Yearbook, Table 10.19 and Table 10.04, these values are expressed in terms of Cubic Ton, however the excel sheet used a x1000 multiplier to arrive at total number of tons from cubic tons (i.e. Thousand Tons).

(ii) For the above issues, the DNA provided clarifications on 23 December 2019.

(b) The 2nd version sent by the DNA on 23 December 2019:

(i) Conversion factor 1.8024 m3/t3 and the difference between "1 true cu. ton" and "1 Hoppus cu. ton" are not clear.

(ii) The values for wood density are inconsistently used.

(iii) While two areas (Reserved Forest & Protected Public Forest) are considered for calculation of woody biomass consumption for non-energy applications, the three areas (Reserved Forest & Protected Public Forest, Protected Area System) are considered as "Extent of non-accessible area". Considering Reserved Forest & Protected Public Forest for both calculations is confusing. The definition of each area should be clarified.

(iv) For Mean Annual Increment (MAI) values, the latest data from 2019 Refinement to IPCC 2006 Guidelines may be used.

(v) The calculation of the parameter TI should not be based on the area of protected forests.

(vi) The value of Biomass Expansion Factor (BEF) is 14, which seems to be too high.

(vii) Confirmation that there is no double counting of the charcoal used by households is necessary because the use of charcoal by companies is based on the production of charcoal. It is possible that these companies also supply charcoal to households.

(viii) The conversion factor of t3 to m3 of 1.8 seems to be high. A figure of 1.13 is provided for timber in some sources.

(ix) For the above issues, the DNA provided clarifications on 07 February 2020.

(c) The 3rd version sent by the DNA on 07 February 2020:

(i) Regarding the calculation of the parameter TI, the BEF value of 14 is too high. Also, the final figure of 747,983,977 t/year of woody biomass

extracted is almost thousand times more than the official figure for Teak and Hardwood Extraction (692,066 t3/yr, which is equivalent to 904,350 t/yr) from the Production Working Circle Area.

(ii) For wood density, it is noted that two different wood density values (i.e. 0.725 t/m3 and 0.57 t/m3) are used in the calculation. The wood density value should be consistently throughout the calculation. The use of 0.725 t/m3 seems to be acceptable as it refers to dry tonnes per m3 and IPCC MAI values are also expressed in dry tonnes.

(iii) If wood extraction is taking place in Reserved Forest & Protected Public Forest (whether it is legal or illegal), these areas should not be regarded as Pforest, Pother. On the contrary, if wood extraction is not taking place in Reserved Forest & Protected Public Forest, these areas should be considered as Pforest, Pother.

(iv) The DNA may wish to use GIS/remote sensing data to delineate "geographically remote area".

(v) For the above issues, the DNA provided clarifications on 19 March 2020.

(d) The 4th version sent by the DNA on 19 March 2020:

(i) The use of BEF to estimate aboveground biomass density (t/ha), using the equation provided by FAO, was proposed by the DNA. However, the proposed value of BEF may need to be further discussed, because only the equation to calculate the BEF value for broadleaf forests is used without justifications (i.e. no consideration of conifer forests) and also because it is not consistent with the value of FRA Myanmar country report (2015).

(ii) When estimating the "all woody biomass consumption for non-energy applications", the value of Volume Over Bark (VOB) per ha (in this case 46 m3/ha) cannot be used to calculate the amount of wood harvested in the forests. The correct value should be in terms of m3/ha/year.

(iii) When estimating total woody biomass consumption for non-energy applications for the whole country, the DNA has proposed to cover not only official logging from "Production Working Circle Area" but also illegal logging from "Reserved Forest & Protected Public Forest". Based on the information from the literature "Forest Trends", the DNA assumed that the total extracted forest area is 18.966 times of Production Working Circle, and used this value to calculate total woody biomass from official as well as illegal extraction. However, the factor 18.9 based on the China imports may need to be further discussed/justified.

(iv) For the above issues, the DNA provided clarifications on 04 May 2020.

(e) The 5th version sent by the DNA on 04 May 2020:

(i) According to Global FRA 2015, aboveground biomass is 2751 (million tonnes) and growing stock is 1342 million m3. The same values can be also found in the latest FRA Myanmar country report 2015. Therefore, BEF = 2751 / (1342 * 0.725) = 2.827. Similarly, in the latest FRA Myanmar country report 2015, the biomass conversion and expansion factor (BCEF) of 2.05 has been applied to the growing stock.

(ii) To calculate the annual woody biomass consumption for non-energy applications, the input value should be in terms of m3/ha/year, not in terms of m3/ha.

(iii) For the exported biomass to China, the issue is that the ratio of "real" exports of wood to China to the reported value (both expressed in monetary value) is calculated and it is applied to the total "official" production of wood. Therefore, the DNA should convert the monetary data on exports to China to physical units (m3), and add the difference between the two values in physical units to the official timber production value.

(iv) For the above issues, the DNA provided clarifications on 23 May 2020.

(f) The 6th version sent by the DNA on 23 May 2020:

(i) The definition of the "working production circle area" of 221,071 ha needs to be clarified.

(ii) The proof of “the assumption that fuelwood and charcoal extraction from the forest based on Myanmar Statistic is fully for use in industry or commercial sector” should be provided. To estimate energy use in industry and commercial sector, the data should come from consumption studies and not from supply studies because the supply data would cover for all sectors.

(iii) For consideration of illegal export to other countries”, the MP provided the suggested calculation.

(iv) For the above issues, the DNA provided clarifications on 17 August 2020.

(g) The 7th version sent by the DNA on 17 August 2020:

(i) The underlying logic of methodology is to identify all the source of biomass production (Supply) and all the places where biomass is used (demand). The proposed categories i.e. i) Land-use conversion due to Mining, ii) Land-use conversion due to Hydropower, and iii) Forest area burned, are not a source of demand of sustainable biomass but could be a source of supply.

(ii) Regarding Bamboo, Thanakha, and Rattan extraction, it should be clarified whether the bamboo has been included in estimation of woody biomass supply/growth as well, because considering the bamboo extraction only for woody biomass consumption is not conservative.

(iii) Regarding the data on illegal extraction, it should be confirmed that this is not already counted elsewhere.

(iv) "Production of Sawlogs and veneer logs" includes the woody biomass which will be used to produce sawnwood, veneer and plywood.

(v) The BEF for forests cannot be applied to bamboo production.

(vi) The BEF value (5.495) is very high. Further explanation is needed, noting that biomass conversion and expansion factor of 2.05 has been applied in “FRA 2015 – Country Report, Myanmar”. Also, the new BEF value is derived for the entire forest area, while the harvested trees are the biggest trees in the harvesting area which have necessarily a lower BEF than the average for all trees (including young trees).

(vii) For the above issues, the DNA provided clarifications on 14 September 2020.

(h) The 8th version sent by the DNA on 14 September 2020:

(i) For the values of export, the raw data extracted from the database UNCOMTRADE should be provided.

(ii) According to the information provided by the DNA, bamboo area in 2005 is 27,853,900 ha. This is the huge area (almost the entire forest area). Also, it is not clear if these are harvested through rotation and hence not unsustainable or this is leading to deforestation. Based on the figures and the density of biomass per hectare (for normal forest) total Bamboo weight extract would deforest about 300,000 hectares a year. This is 70% of the reported deforestation area per annum for Myanmar.

(iii) The BEF for bamboo seems to be high. The proposed value (BEF_bamboo = 2.775) needs to be cross-checked with other literature (e.g. peer-reviewed scientific papers).

(iv) The application of the BEF value should be limited to non-energy application only, and should not be considered for fuelwood and charcoal. The use of the same BEF value (2.827) for Thanatkha and Rattan should be justified. A general question is that the waste from timber and log extracted possibly get used to some extent as fuelwood. By not using it as possible source of fuelwood and then using expansion factor to show the full extraction of biomass possibly is double dipping.

(v) The assumption made is that all of reported Fuelwood and Charcoal as NTFPs (Supply side) is used in industry and household consumption of the two (estimated possibly from demand side) is additional. This is a strong assumption and needs to be proven. Two different sides are used. One way to address is to get demand side data for industry and use it by subtracting the supply from total estimated demand, assuming the recorded supply is sustainable. Further in the data set, Charcoal “production” is 320,623 (for 2015). The dataset uses the word "production" and not "consumption". Thus, this needs to be clarified.

(vi) For the values for illegal export, it is noted that the DNA has proposed a new value (17 million ton, whereas the value discussed before was 3 million ton), based on a new information from UNCOMTRADE2015. According to the raw data, the imports of Bangladesh represent 95% of total imports from Myanmar. It is suggested that the figure (in particular, 22 million cubic metres) should be cross-checked using official data from Bangladesh.

(vii) The use of BEF and increase in charcoal and illeagal timber data adds up to increase in about 90 million tonnes. That is half the estimate of NRB. Based on the new calculations of NRB and the forest density (t/ha), the estimated annual loss of area is 1.4 million ha per year. The observed rate of deforestation reported by FAO for Myanmar, averaged over 1990 – 2010, is 372,250. This, as the FAO states, has since declined. This difference of 4 times needs to be further explained.

(viii) For the above issues, the DNA provided clarifications on 05 October 2020.

(i) The 9th version sent by the DNA on 05 October 2020:

(i) The MAI for bamboo is needed. The use of 1.6 t/ha/year for Bamboo areas (859,000 ha of bamboo-dominated area) may not be appropriate.

(ii) Charcoal data for the parameter HW and other charcoal data for the parameter TI may be overlapped.

(iii) For the above issues, the DNA provided clarifications on 16 October 2020.

(j) The 10th version sent by the DNA on 16 October 2020:

(i) There is a huge gap between the production of bamboo biomass (currently 1.5 Mt/y) and the extraction (37 Mt/y).

(ii) The original source of the data for TI for Firewood (20,911) and TI for Charcoal (233) comes from Myanmar Statistical Year Book 2016 published by Central Statistical Organization, Myanmar. However, nowhere in the Statistical Year Book it is explicitly written that these values are only for commercial purpose and do not include household consumption. Therefore, the DNA is kindly requested to confirm this either through providing other supporting evidence or providing an official letter of confirmation signed by appropriate government authority. In the absence of any evidence that NTFP of fuelwood is used only in commercial purpose, the estimation of wood and charcoal for energy in non-household sector should be based on data on consumption estimates and not the supply of wood for energy. As the latter is very likely to lead to double counting.

(iii) For the above issues, the DNA provided clarifications on 06 November 2020.

(k) The 11th version sent by the DNA on 06 November 2020:

(i) The updated submission was discussed at MP at its 83rd meeting. At MP83, it was considered that further justification on the above issue (i.e. Firewood and charcoal production) was not provided by the DNA to the satisfaction of the MP. In addition to the information provided by the DNA, the MP also considered the following two sources:

a. Myanmar Energy Consumption Surveys Report (Asian Development Bank, 2017)

b. Myanmar Energy Statistics 2019 (Economic Research Institute for ASEAN and East Asia, 2019)

(ii) Based on the information above, the MP is of the opinion that the claim that the value of Non-timber forest product (NTFP) for fuelwood (32.4 Mt) is only for commercial purpose and does not include household consumption is still questionable, and it is highly likely that there is a double counting between household consumption and commercial supply data. Also, given the inconsistencies in the official data, it would be challenging to ensure 100% that NTFP of fuelwood is used only in commercial purpose. Thus, the MP is of the view that for the estimation of wood and charcoal for energy in non-household sector it would be safe to base on the data on consumption estimates and not the supply of wood for energy. Therefore, the MP has proposed a fNRB value of 61.5%, which is the conservative of the two values discussed i.e. 70.5 % and 61.5%.

(iii) Further, the DNA has been consulted and has accepted the fNRB value of 61.5%.