

**IPCC Inventory Software Version 2.691 of the 23 January 2020**  
**(with Tier 2 implementation and fixes in Livestock-related categories from version 2.69)**

**Release note**

*For the details on for which categories Tier 2 method has been implemented, please refer to the table (Tier2\_coverage.xlsx) available from [http://www.ipcc-nggip.iges.or.jp/software/files/Tier2\\_coverage.xlsx](http://www.ipcc-nggip.iges.or.jp/software/files/Tier2_coverage.xlsx).*

*From version 2.54 a number of updates/improvements and bug-fixes have been implemented including:*

1. Tier 2 capacity for Livestock 3.A.1 and 3.A.2 categories:
  - New worksheets for all livestock species with “Calculated/Specified” option are implemented (to allow either calculation or specification of national data);
  - Data on livestock population entered at Tier 1 are automatically transferred to Tier 2 and vice versa;
  - Data on livestock population and data used to estimate Gross energy intake (e.g. live-weight, milk production etc.) entered in 3A1 Enteric Fermentation are automatically transferred to 3A2 Manure Management and vice versa.
2. Revision of the Livestock Manager:
  - Common for Tier 1 and Tier 2;
  - Enhanced characterization for Livestock (subdivision added);
  - Allowed disaggregation of emissions estimation data by climate/region zone etc.;
  - Population, typical animal mass and N excretion rate columns for data entering relocated to relevant 3A worksheets.
3. Revision of 3A worksheets for Tier 1:
  - Additional worksheets (“Livestock population”, “N excretion rate” and “MMS-EF for direct N<sub>2</sub>O-N emissions”);
  - Column with MS fractions relocated from “Region, Livestock, MMS associations” to “Direct N<sub>2</sub>O emissions from MMS” worksheet;
  - Columns with fraction of total N loss (FracLossMS) and N in bedding relocated to 3C.4 as a separate worksheet “Managed manure N available for application to managed soils, feed, fuel or construction uses”;
  - Drop-down boxes with IPCC default data for other livestock (e.g. alpacas, deer etc.) are added.
  - Some default data in drop-down boxes are corrected (e.g. to reflect Corrigenda for the 2006 IPCC Guidelines).
4. Improved XML Import function.
5. Revision of 3.C.6 (worksheets for estimation of indirect N<sub>2</sub>O emissions due to leaching and runoff added).
6. Cumulated Area Entry Table added to 3.B.4.b.ii.
7. Fixed data table issues in the Level assessment of the KCA Tool.

**Issues related to database upgrade (fixes to IPCC Inventory Software v.2.69)**

8. Fixed database transformation logic causing incorrect mapping of livestock population data (e.g. sheep mapped to buffalo). It should be noted that this bug appeared only in case of none user-defined "other" livestock category was contained in the database.
9. Improved mapping of MS fractions data for Daily spread MMS.
10. In case of single region/geographical zone is defined Livestock population data was taken from “Region, Livestock, MMS Associations” worksheet instead of from the Livestock manager.
11. N excretion rate for Livestock categories "other" (3A.1j and 3A.2j) is now correctly mapped to Annual N excretion rate (Specified) instead of to daily N excretion rates as for other populations (see Vol.4, Ch.10, Table 10.19).