

We report below the correct version of Equations (16), (17) and (24). Thank you. **Changes to be applied are highlighted in red and bold.** Thank you.

Equation 16

Equation (16) contains a typographical error that we had not noticed before. There is a mistake in an exponent that should be "Nutri" and not "N", since all equations are written here using a general form ("Nutri") that applies to both nutrients ("N" and "P").

In Equation (16), $eff_{23noNutri}^N$ should be replaced $eff_{23noNutri}^{Nutri}$ (i.e. the exponent "N" should be replaced by "**Nutri**"). Equation (16) should be as follows:

$$J_{ps,wwtpOut,rur}^{Nutri}(t,i) = (1 - f_{loss,transport}^{N,P})J_{gross,dom,rur}^{Nutri}(t,i)(T1_{rur}(t,i)(1 - eff_1^{Nutri}) + T23_{rur}^{noNutri}(t,i)(1 - eff_{23noNutri}^{Nutri}) + T3_{rur}^{Nutri}(t,i)(1 - eff_3^{Nutri}))$$

Equation 17

Equation (17) contains a typographical error that we had not noticed before. This equation refers to rural areas. Therefore, the indices of all variables should be "rur". One index is "urb" mistakenly and should be replaced by "rur".

$J_{gross,dom,urb}^{Nutri}(t,i)$ should be replaced by $J_{gross,dom,rur}^{Nutri}(t,i)$ (i.e. the index "urb" should be replaced by "**rur**"). Equation (17) should be as follows:

$$J_{wwtpIn,rur}^{Nutri}(t,i) = (1 - f_{loss,transport}^{N,P})J_{gross,dom,rur}^{Nutri}(t,i) \times (T1_{rur}(t,i) + T23_{rur}^{noNutri}(t,i) + T3_{rur}^{Nutri}(t,i))$$

Equation 24

Equation (24) contains a typographical error in the numerator (we forgot an "i" in a parenthesis). We also realised that we made a mistake in the denominator because we copied the denominator from Equations 22 and 23. However, unlike Equations 22 and 23, Equation 24 is varying in time and so does its denominator.

The denominator of equation (24) should be modified as well as the content of a parenthesis in the numerator. Equation (24) should be as follows:

$$DIST(t,i) = 100 \frac{\max(X_{obs}^{lb}(t,i) - X_{sim}^{ub}(t,i), 0) + \max(X_{sim}^{lb}(\mathbf{t}, \mathbf{i}) - X_{obs}^{ub}(t,i), 0)}{\left(\frac{X_{obs}^{lb}(\mathbf{t}, \mathbf{i}) + X_{obs}^{ub}(\mathbf{t}, \mathbf{i})}{2} \right)}$$