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ERRATUM

Erratum to: Life cycle assessment of chitosan production in India and Europe

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The life cycle impact assessment (LCIA) results for the Indian chitosan supply chain, as published in the article, contain an error in the "Water use" indicator. While water use during chitin and chitosan manufacturing were accounted for in the inventory analysis (167 L/kg chitin and 250 L/kg chitosan, see section 3.2 in the article), these flows were not covered in the impact assessment calculations, thus leading to an underestimate of the overall water use in the supply chain. In Table 1 and Table 2 below, we provide the corrected values for water use, for both chitin and chitosan. These tables replace the corresponding data for "Water Depletion" in Tables 17 and 18, respectively, in the supplementary material, where the detailed LCIA results are reported for the Indian supply chain.

In section 4.1 of the article, the text reads: "In water use, the water saving is higher than the water use". Similarly, in section 5, the text reads: "The use of shrimp shells as raw material affects the market for animal feed, resulting in a credit in many impact indicators, especially in water use, where the net result is a water saving". In both cases, the statement that producing chitosan leads to a net overall water saving does not hold true anymore after the correction, since the induced water use in the chitosan factory is higher than the water saving associated to the raw material.

Below, we provide corrected versions for Figs. 3, 4, and 7. It must be highlighted that compared to the figures in the article, only the water use indicator has been subject to corrections.

The online version of the original article can be found at http://dx.doi.org/10.1007/s11367-017-1290-2

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Table 1 Impact assessment results for 1 kg chitin, Indian supply chain. Corrected results for water use

Impact category	Unit	Total	Other[a]	Transport	NaOH production	HCl production	Protein sludge	Diesel use	Electricity	Shrimp shells as animal feed	Calcium waste disposal	iLUC
Water depletion	m^3	−6.53E−01	1.67E−01	1.22E−02	2.08E−01	3.18E−01	−1.01E−01	6.34E−04	8.10E−02	−1.45E+00	3.40E−04	1.09E-01

[a] Includes water use by Mahtani.

Table 2 Impact assessment results for 1 kg chitosan, Indian supply chain. Corrected results for Water Use

Impact category	Unit	Total	Other[a]	Chitin production	NaOH production	Heat from biomass	C storage in chitosan	Electricity	iLUC	Chitosan factory infrastructure
Water depletion	m^3	2.48E−01	2.50E−01	−1.07E+00	8.30E−01	1.10E−02	0.00E+00	6.60E−02	1.52E−01	4.23E−03

[a] Includes water use by Mahtani.

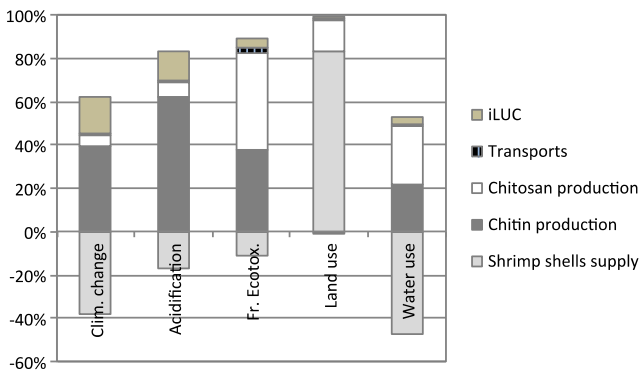

Fig. 3 Impact assessment results for general-purpose chitosan produced in India by life cycle stage. Corrected results for water use

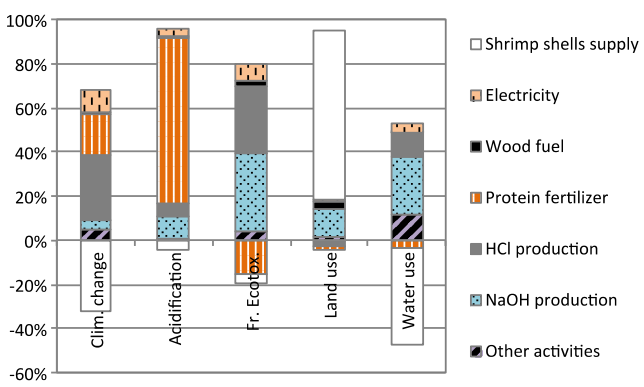

Fig. 4 Impact assessment results for general-purpose chitosan produced in India by activity. Corrected results for water use

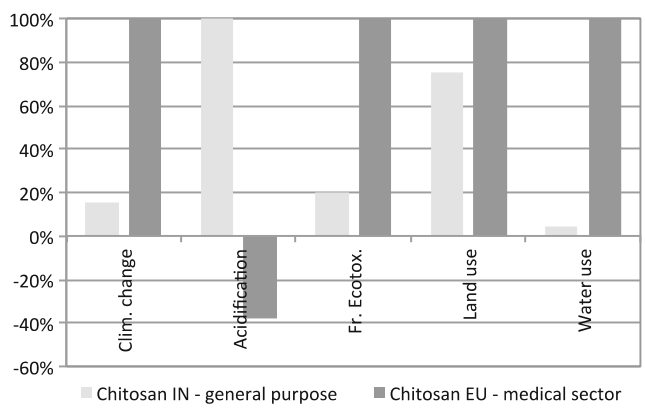

Fig. 7 Comparison of impact assessment results for Indian and European chitosan supply chains in relative terms. The highest score in each impact indicator is set to 100%. Corrected results for water use