

Wageningen University & Research

Circularity in Integrated Systems: Resource Recovery for Feed, Fuel and (Organic) Fertilizer Self-sufficiency in Ethiopia (**Circularity Indicators**)

Carlos Alho (WEnR)



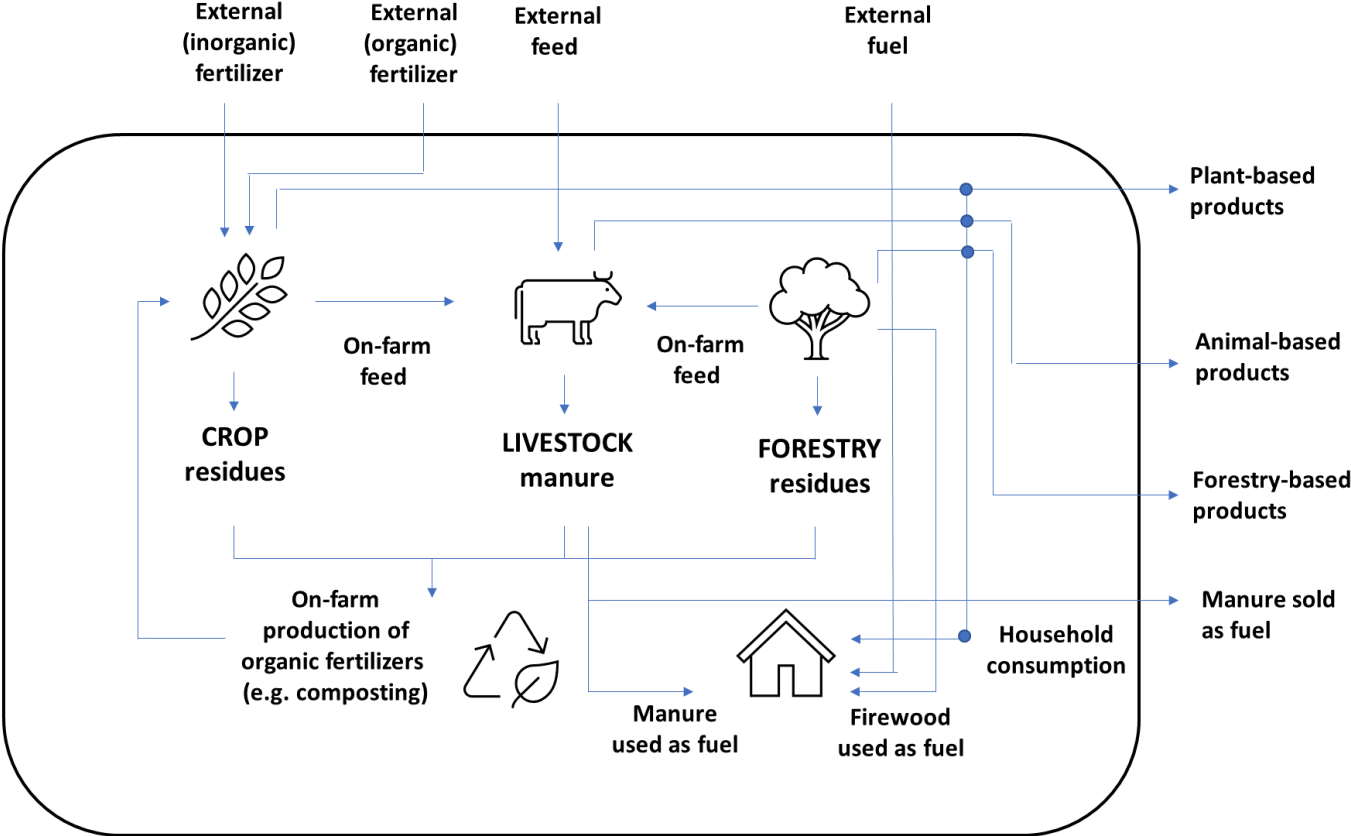
Circularity Indicators

- Project Coordination
 - Wageningen Environmental Research (WEnR)
- Project Partners
 - Wageningen Livestock Research (WLR)
 - Stichting Wageningen Research Ethiopia (SWR)
 - Bahir Dar University
 - Jimma University
- Project Partners (in kind)
 - SENSE (ERA-NET)

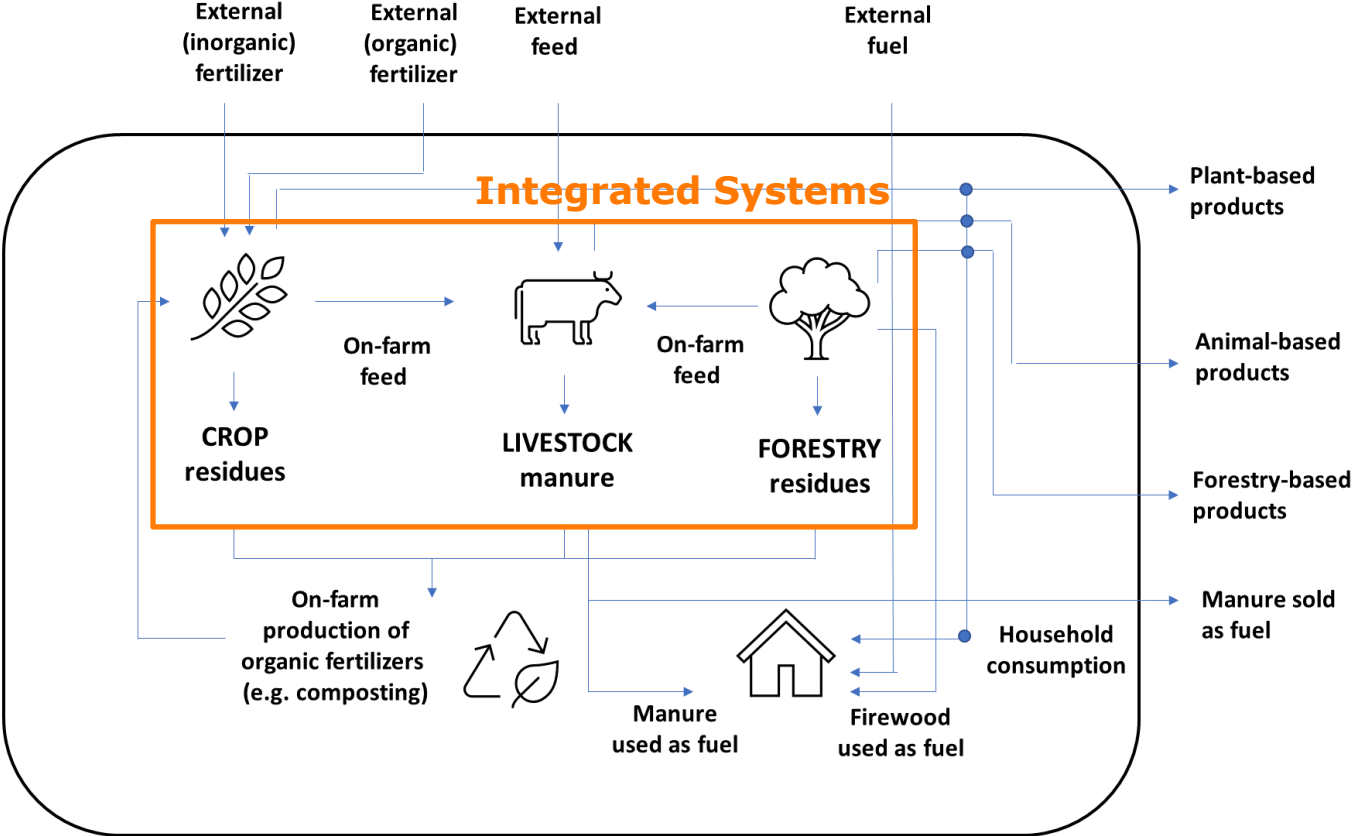
Circularity Indicators

- Duration (12 months)
 - Start date: 01 March 2023 (M01)
 - End date: 28 February 2024 (M12)
- Case studies
 - Case study 1: South Achefer, Amhara region, Ethiopia
 - Case study 2: Teppi, South West region, Ethiopia
- Methods
 - In situ quantification, local expert knowledge, desk-based research, use of existing data, online dialogues.
- Activities/Outputs
 - 6 Tasks leading to 3 Deliverables

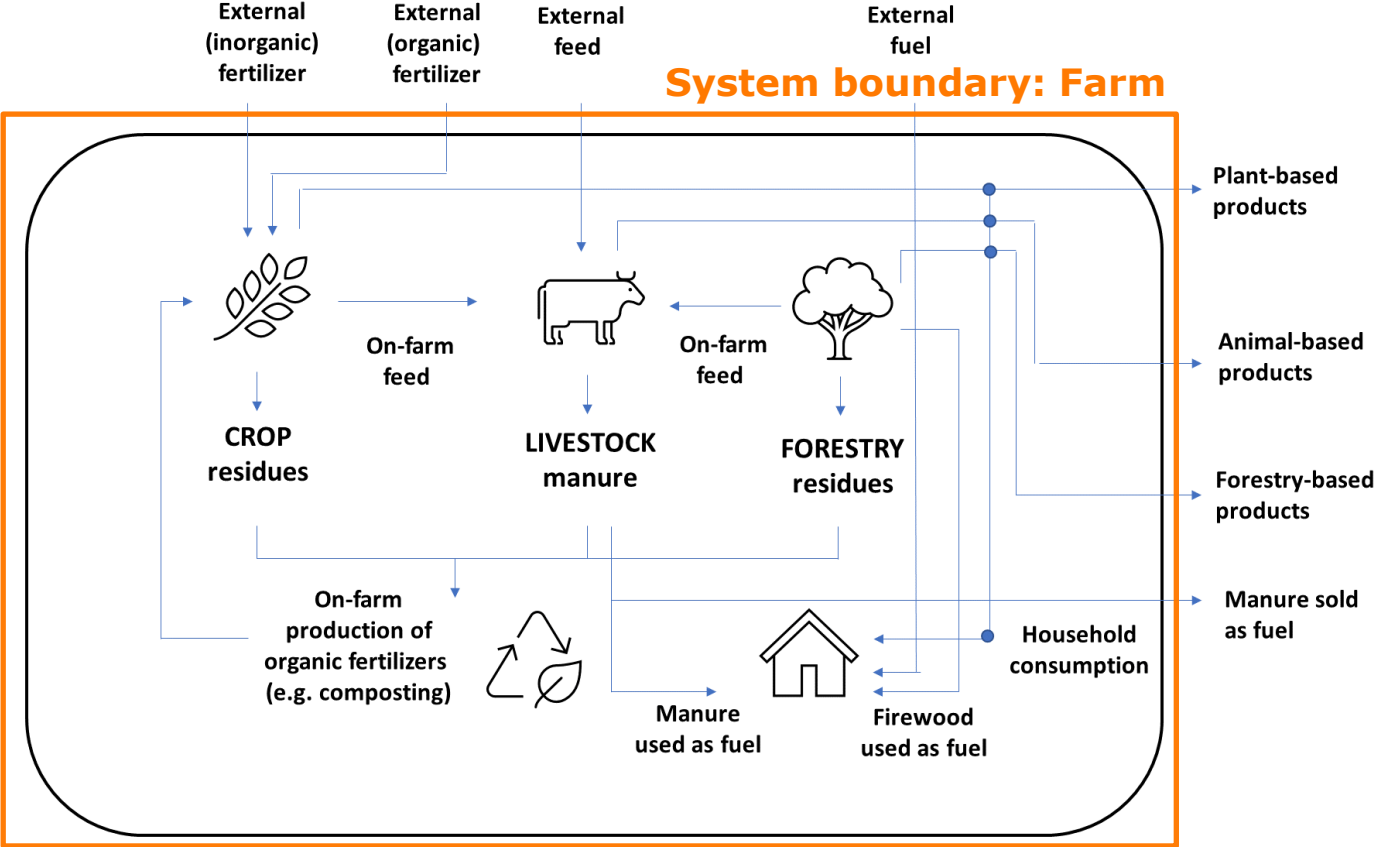
Conceptual Framework



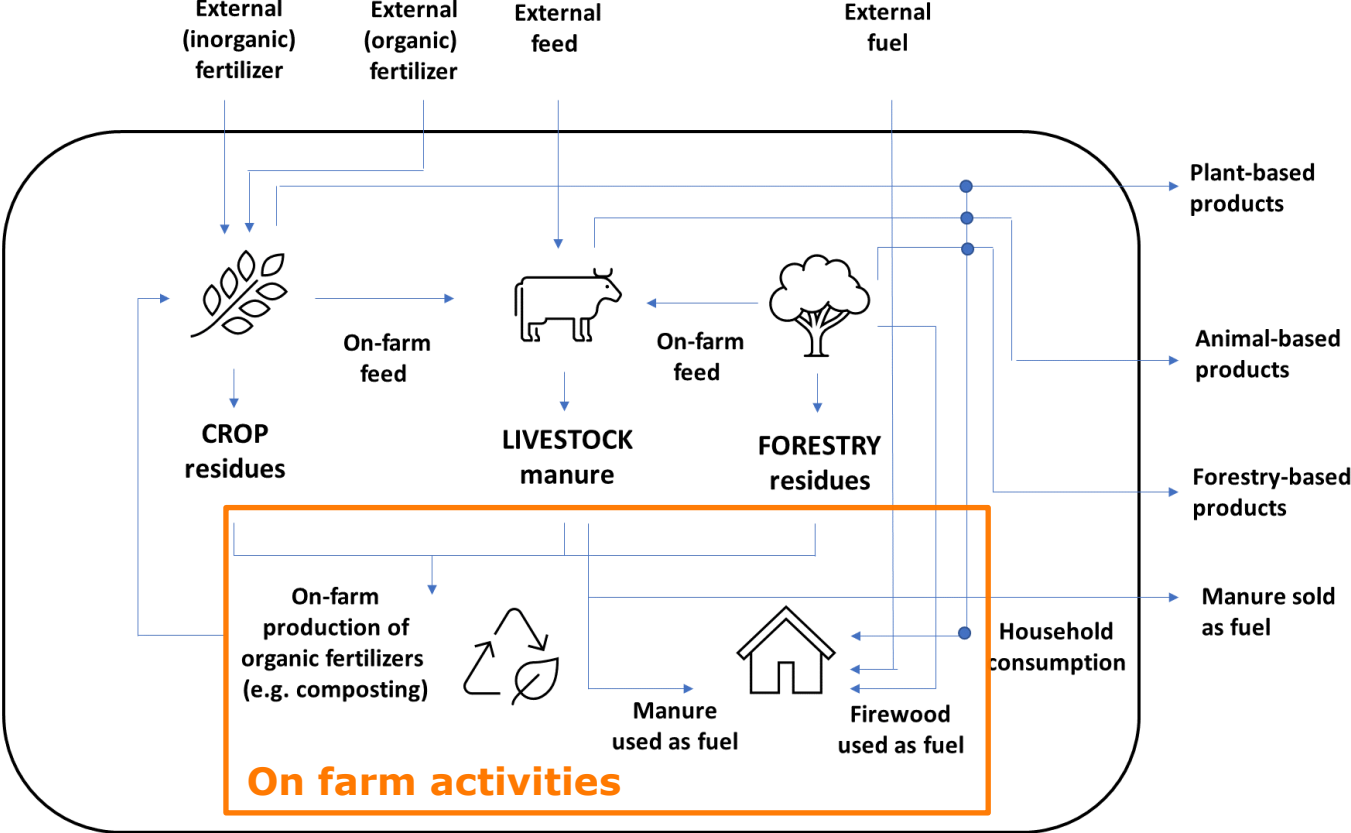
Conceptual Framework



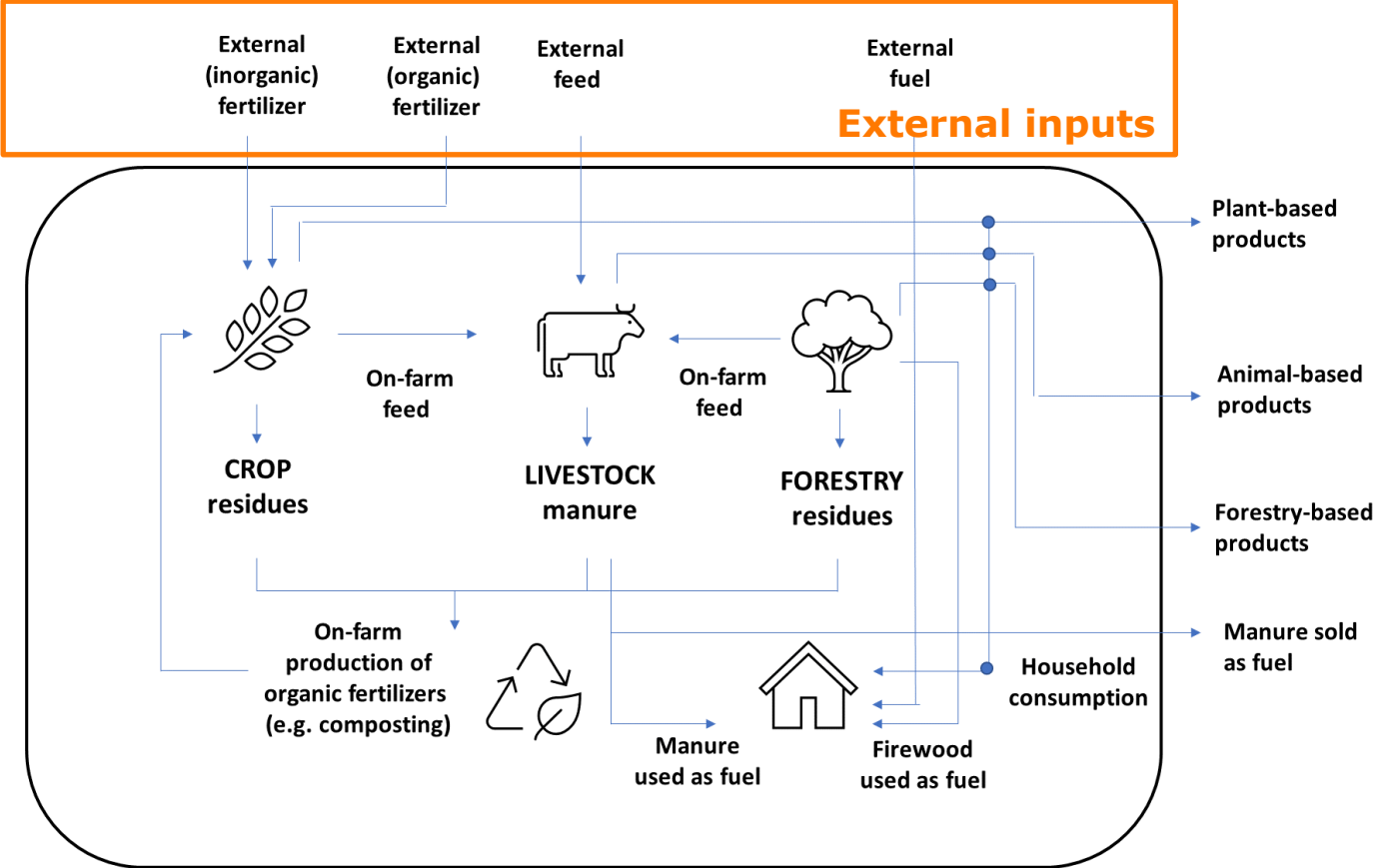
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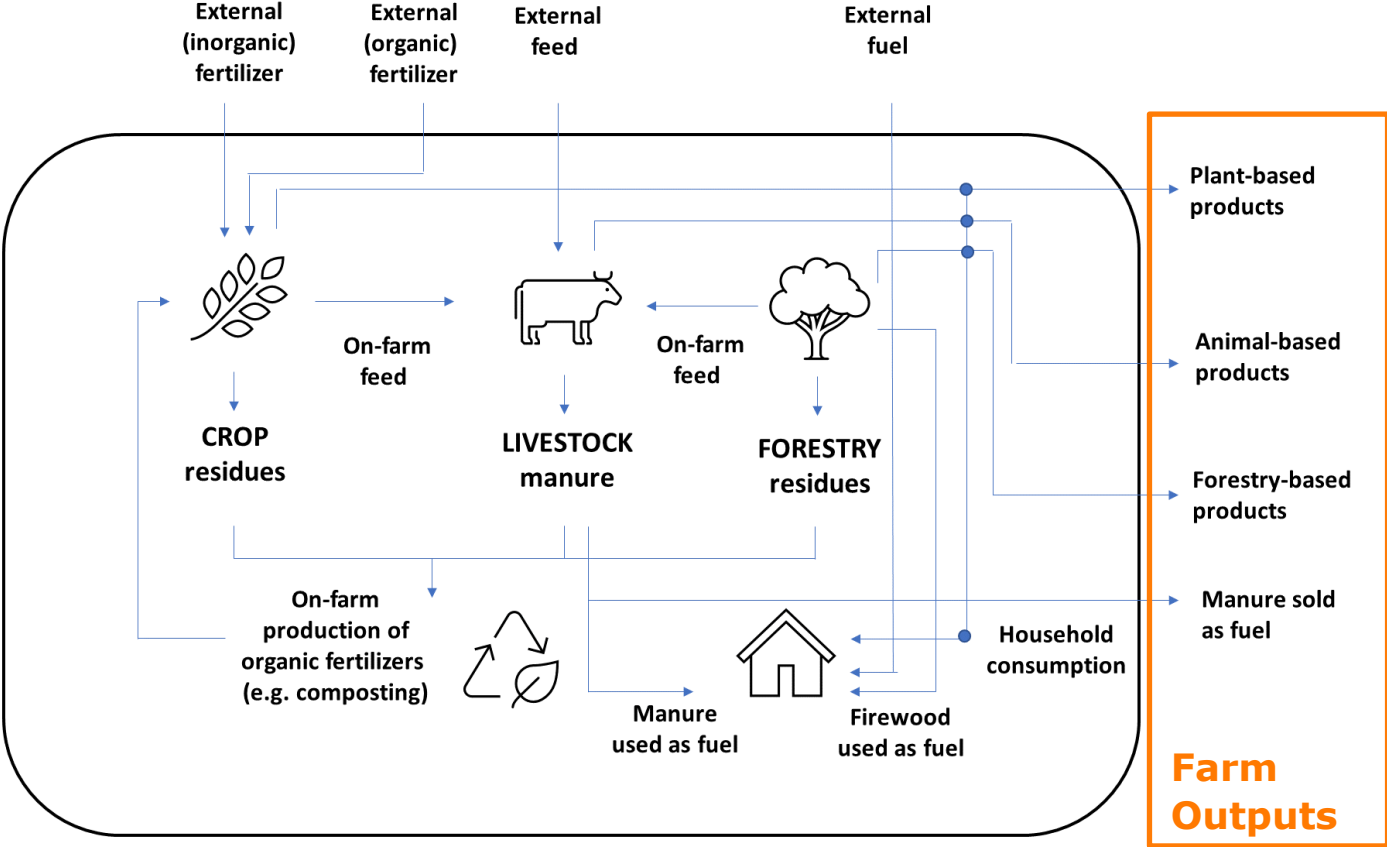
Conceptual Framework



Conceptual Framework



Conceptual Framework



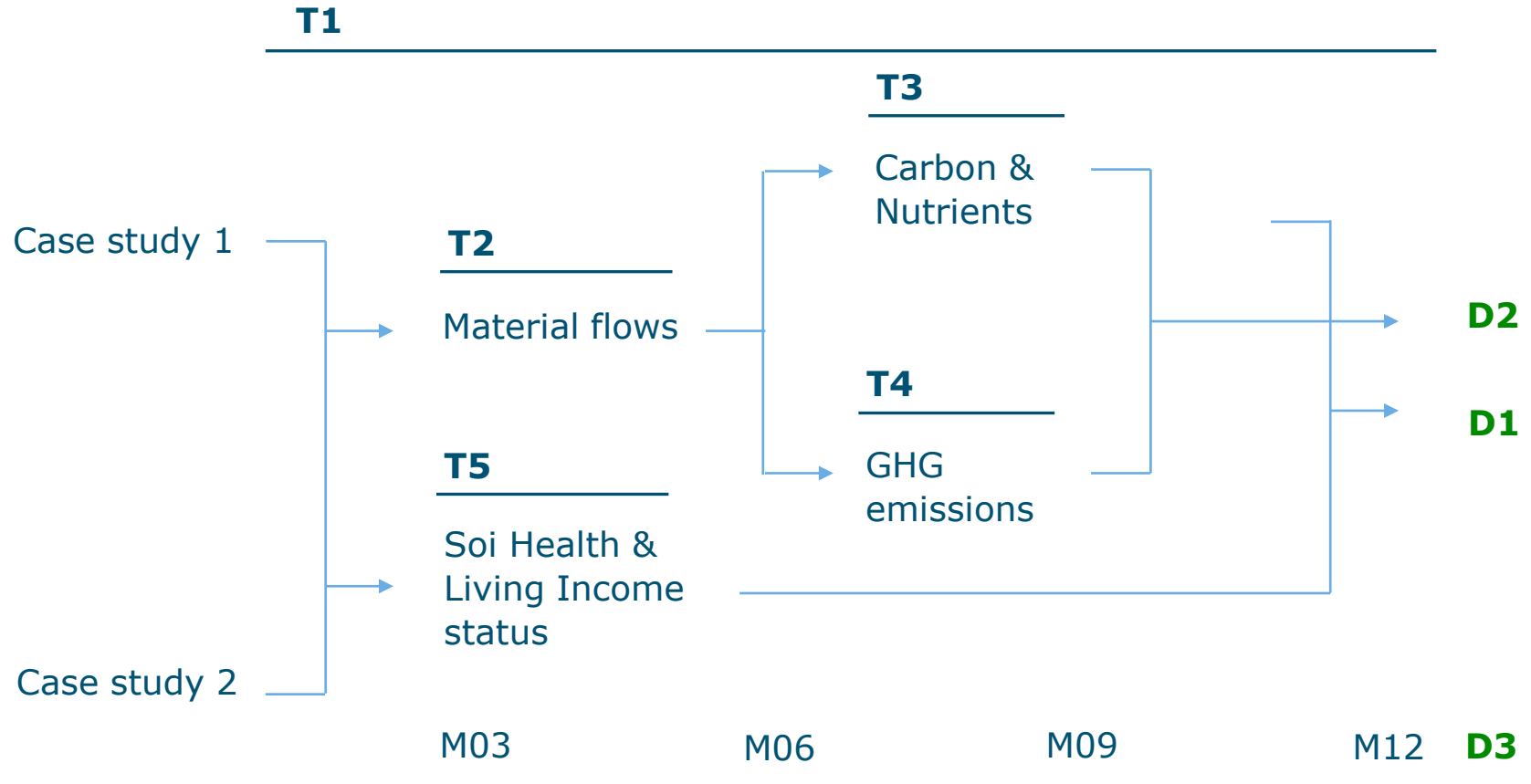
Tasks

- **T1:** Developing indicators to measure circularity focusing on on-farm and regional feed, fuel and (organic) fertilizer self-sufficiency (**WEnR**)
- **T2:** Estimating the material flows in two case studies in Ethiopia (**SWR**)
- **T3:** Estimating the carbon and nutrient content from the material flows (**WLR**)
- **T4:** Estimating the GHG emissions from on-farm and regional activities (**WLR**)
- **T5:** Assessing Soil Health & Living Income in the context of Circularity (**SWR**)
- **T6:** Exchanging knowledge and experiences with ERA-NET projects (**WEnR**)

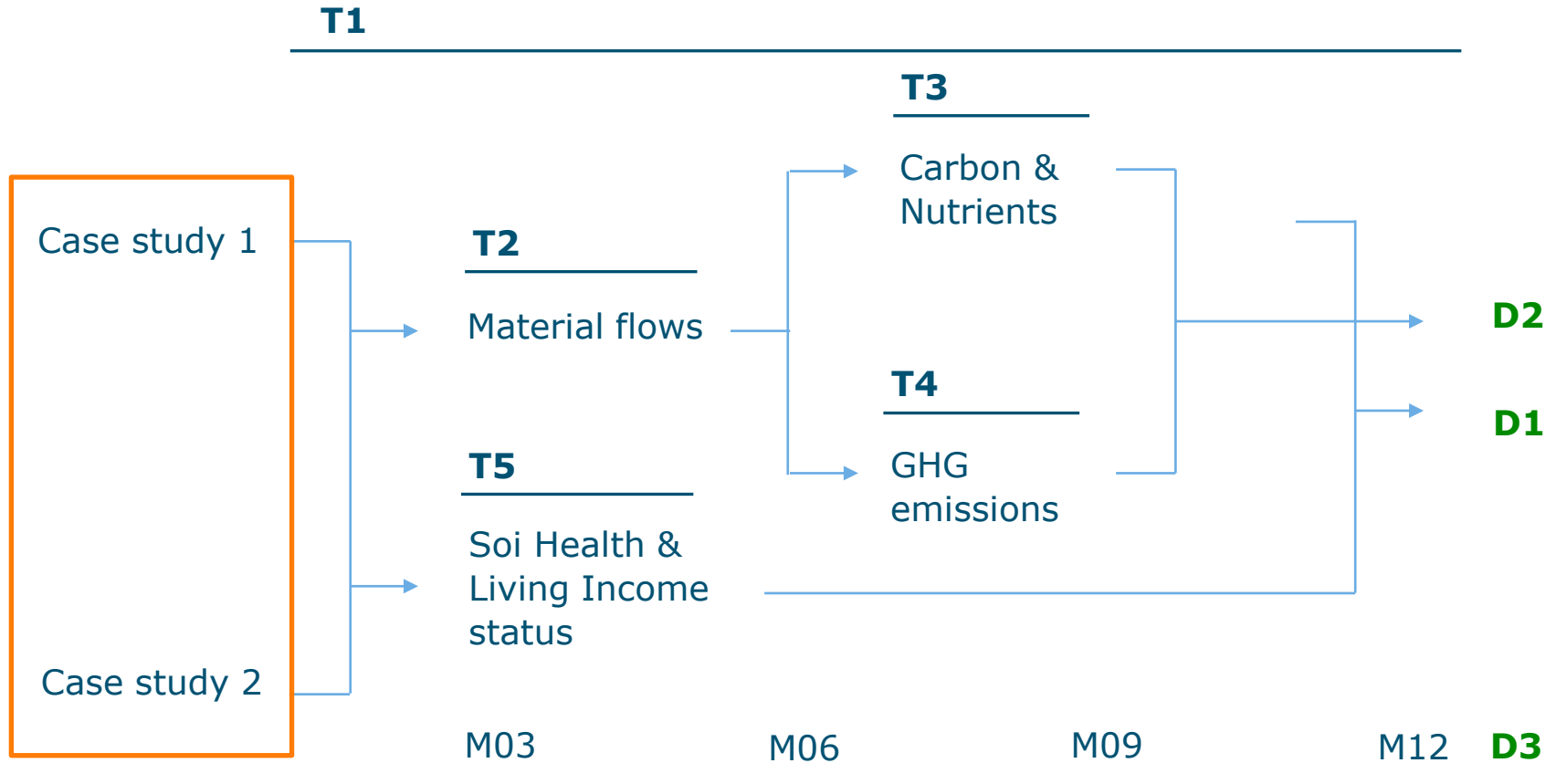
Deliverables

- **D1** (T1 + T5): One Technical report with a list of circularity indicators including the link with soil health and living income (**M12**)
- **D2** (T2 + T3 + T4): One Technical report with the quantification of material flows and associated carbon and nutrients contents as well as estimation of GHG emissions from on-farm and regional activities (**M12**)
- **D3** (T6): Four Online Dialogues on the 'circularity in integrated systems' (**M03**, **M06**, **M09** and **M12**)

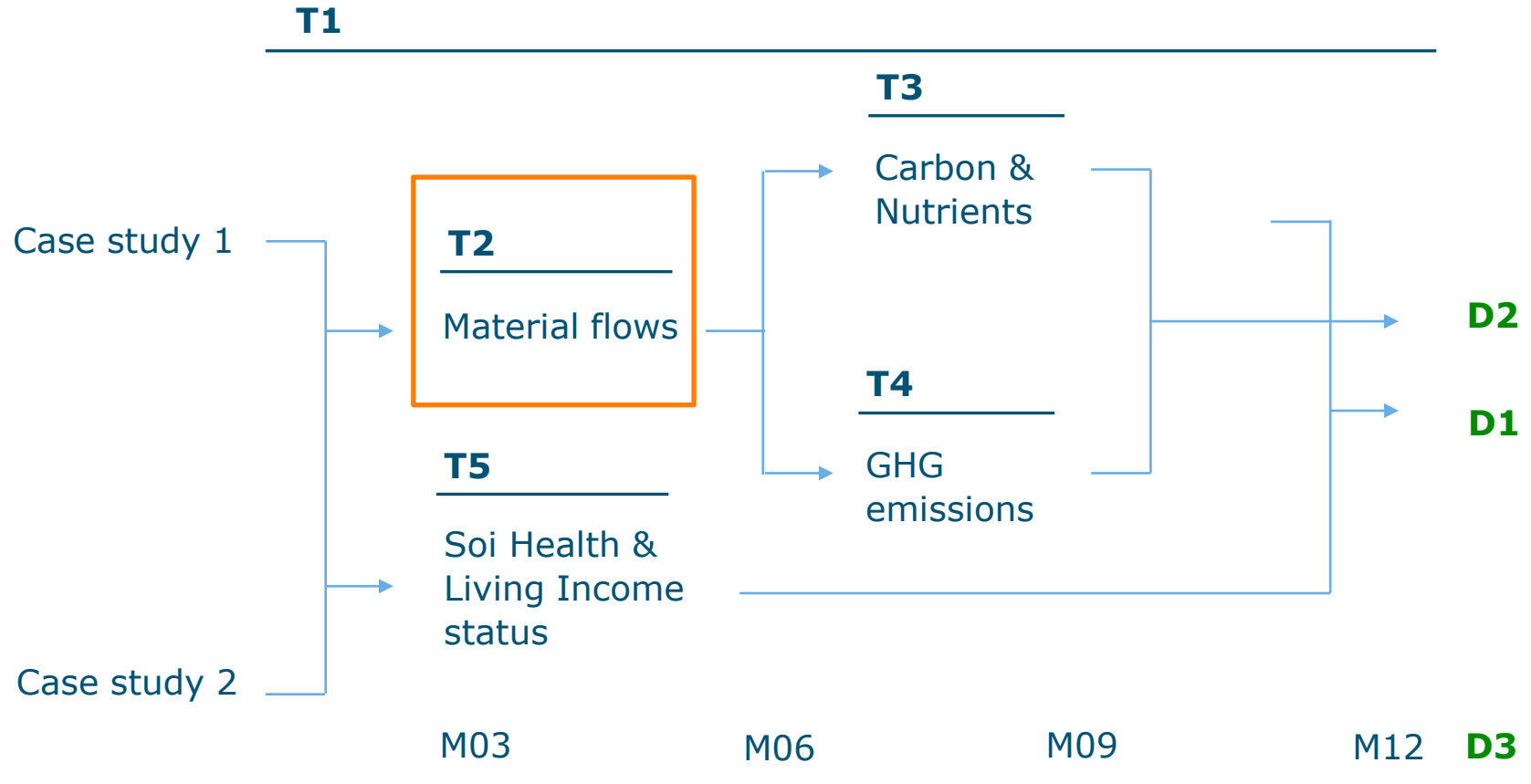
Tasks/Deliverables



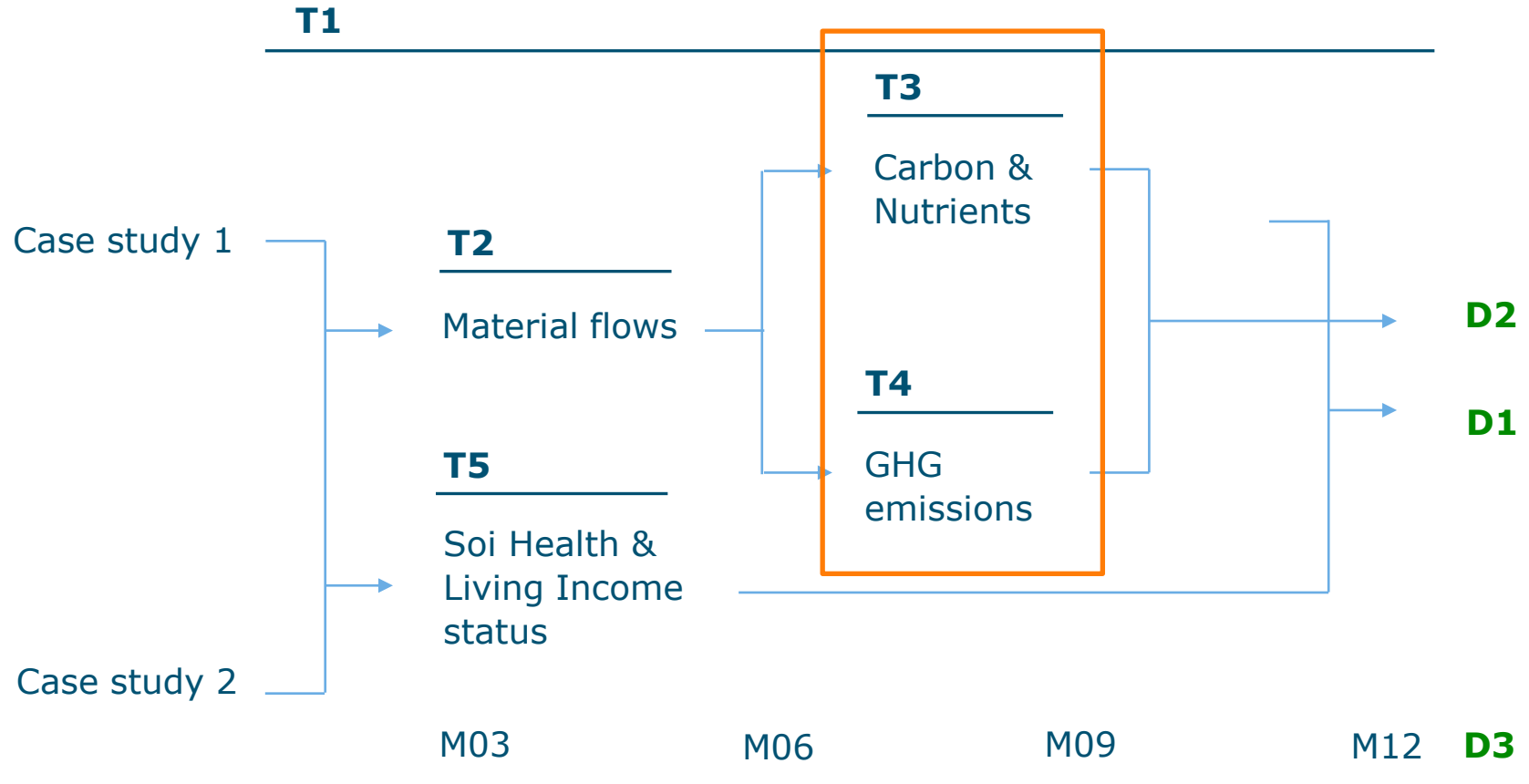
Tasks/Deliverables



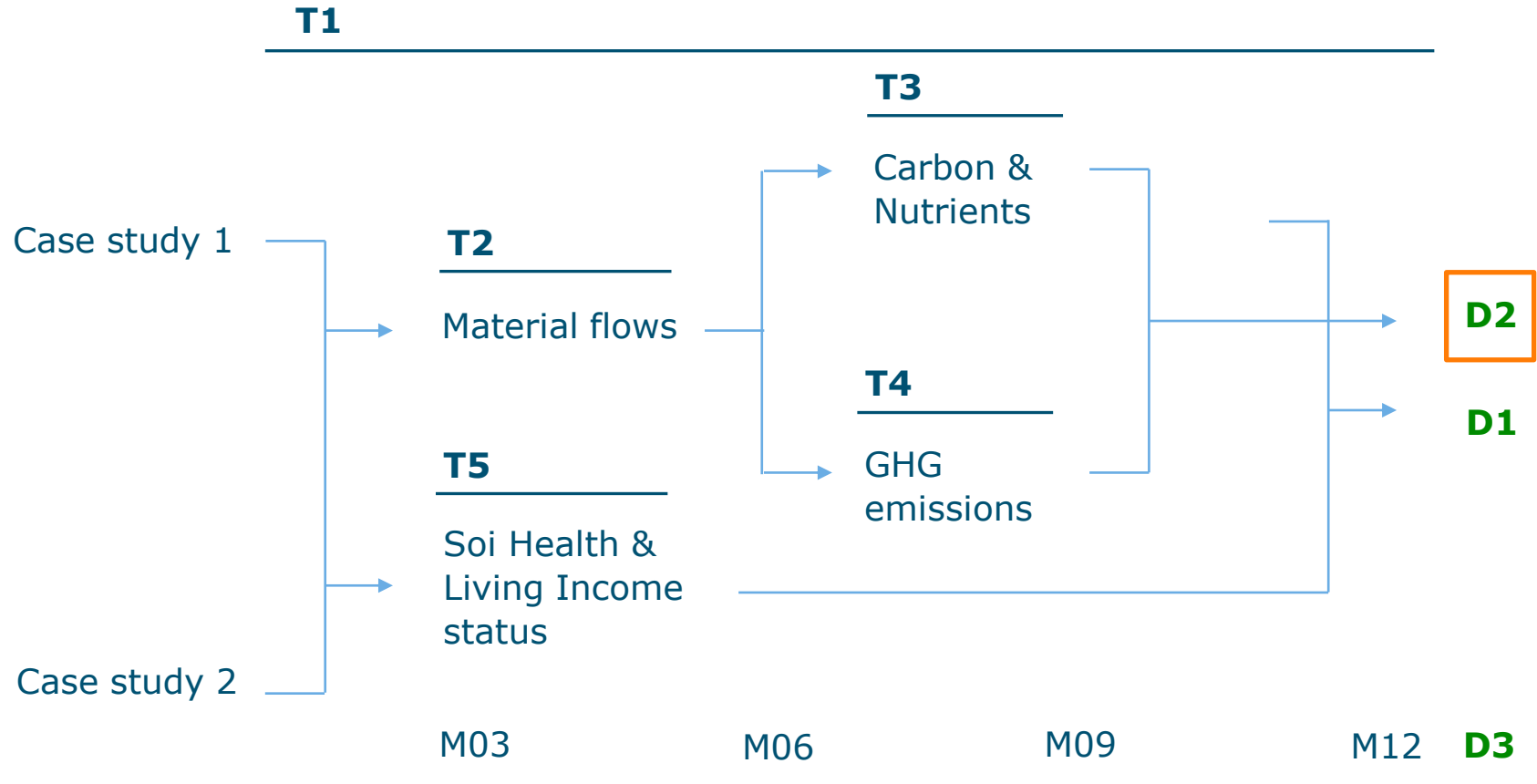
Tasks/Deliverables



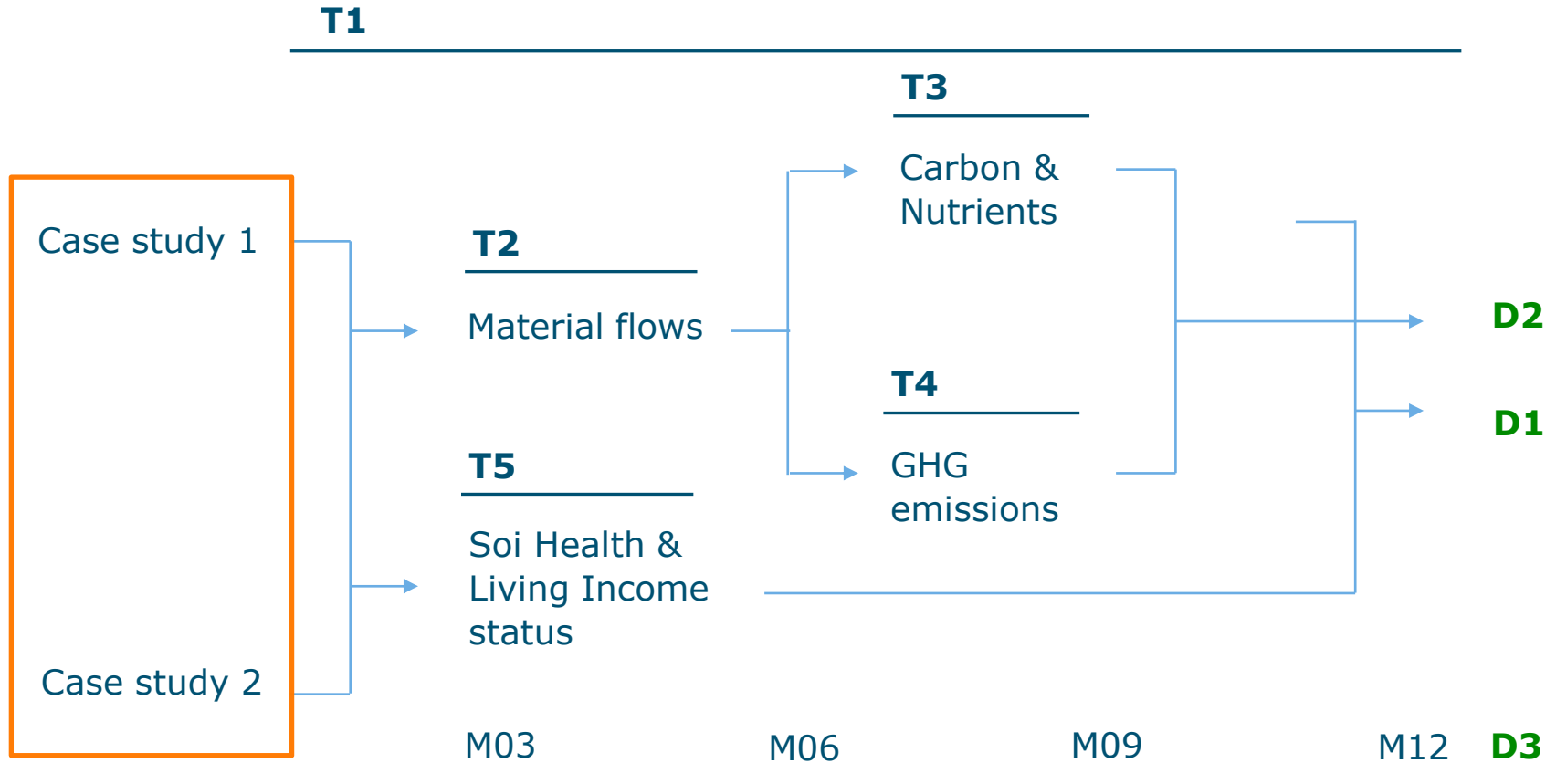
Tasks/Deliverables



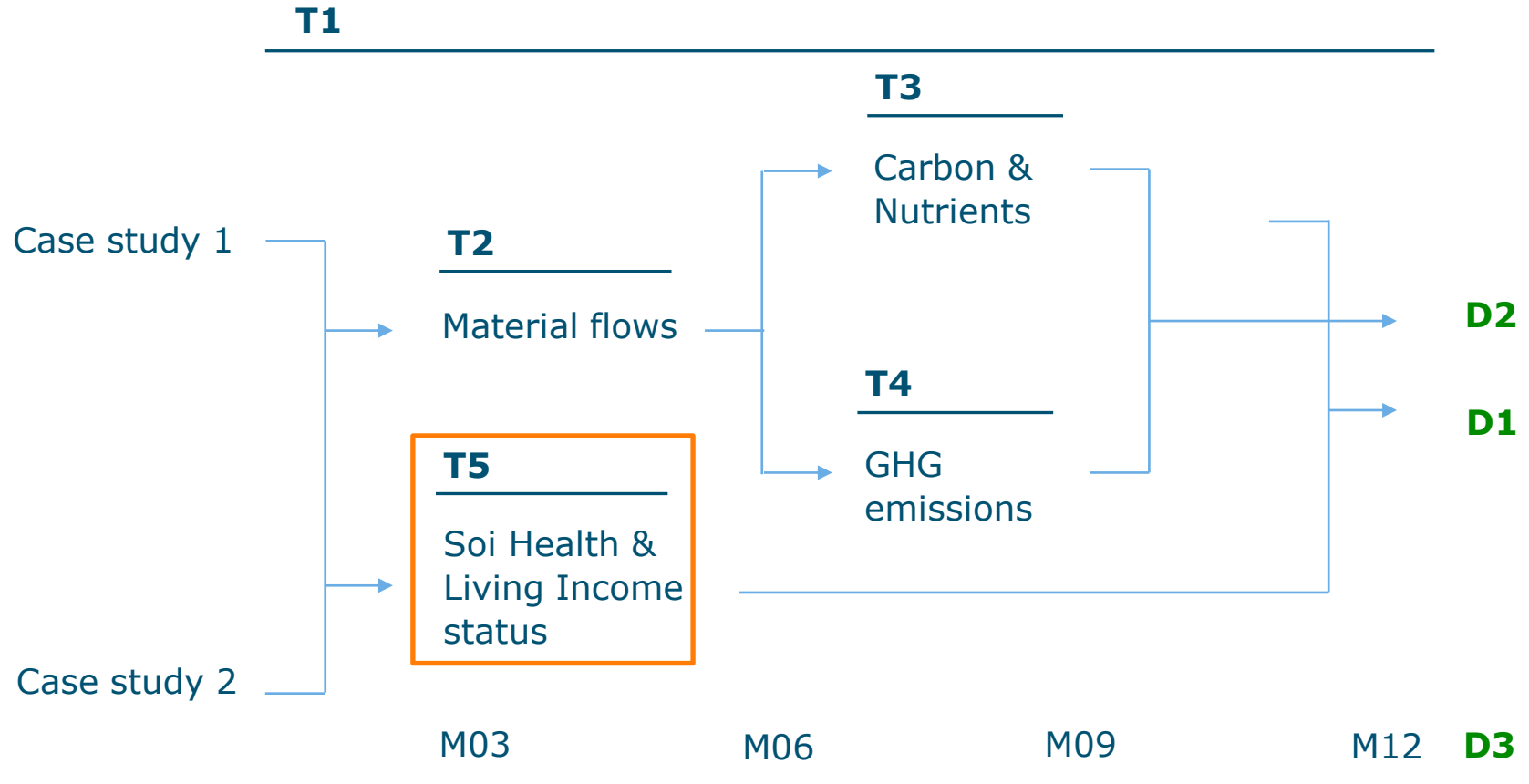
Tasks/Deliverables



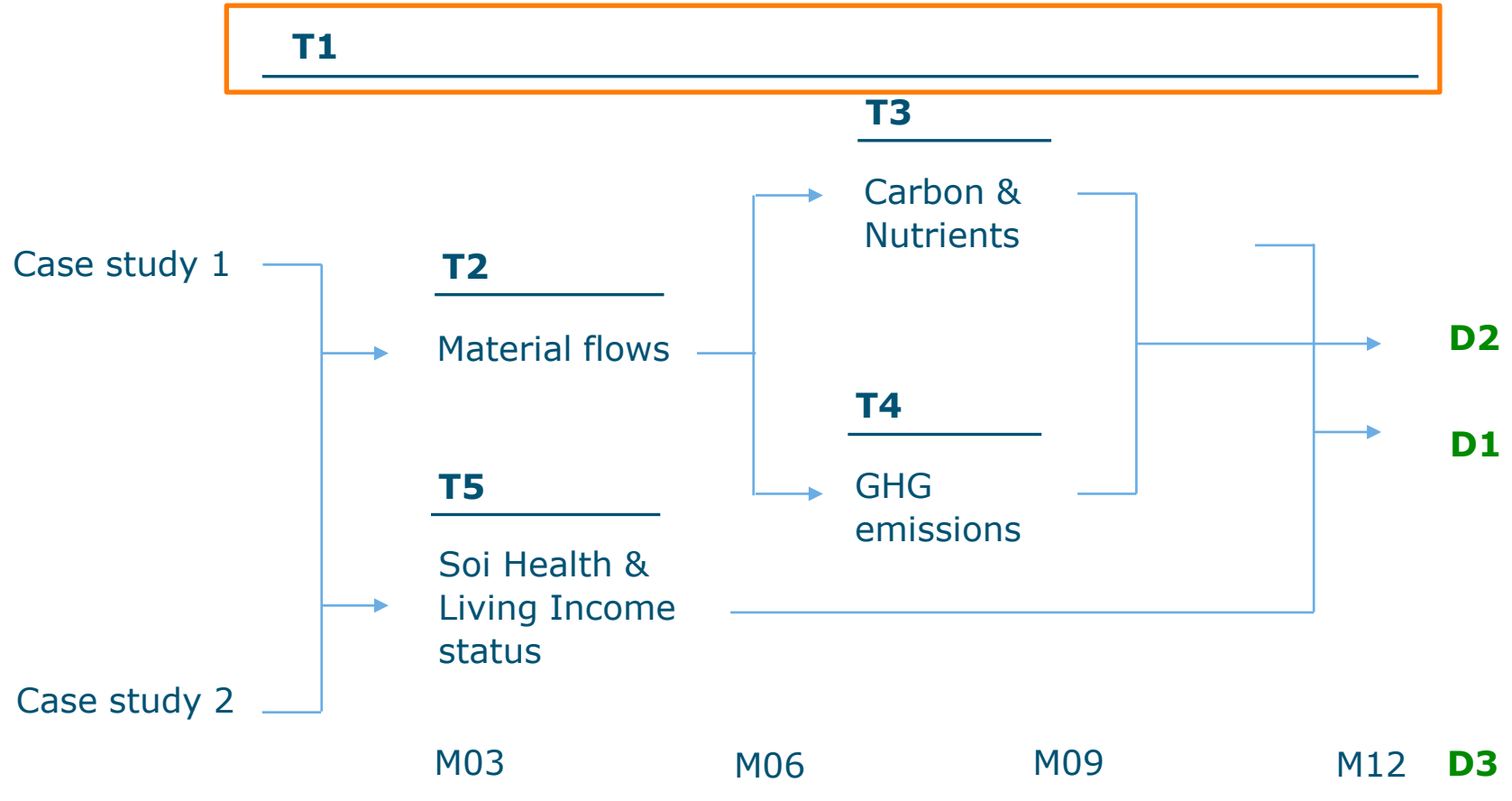
Tasks/Deliverables



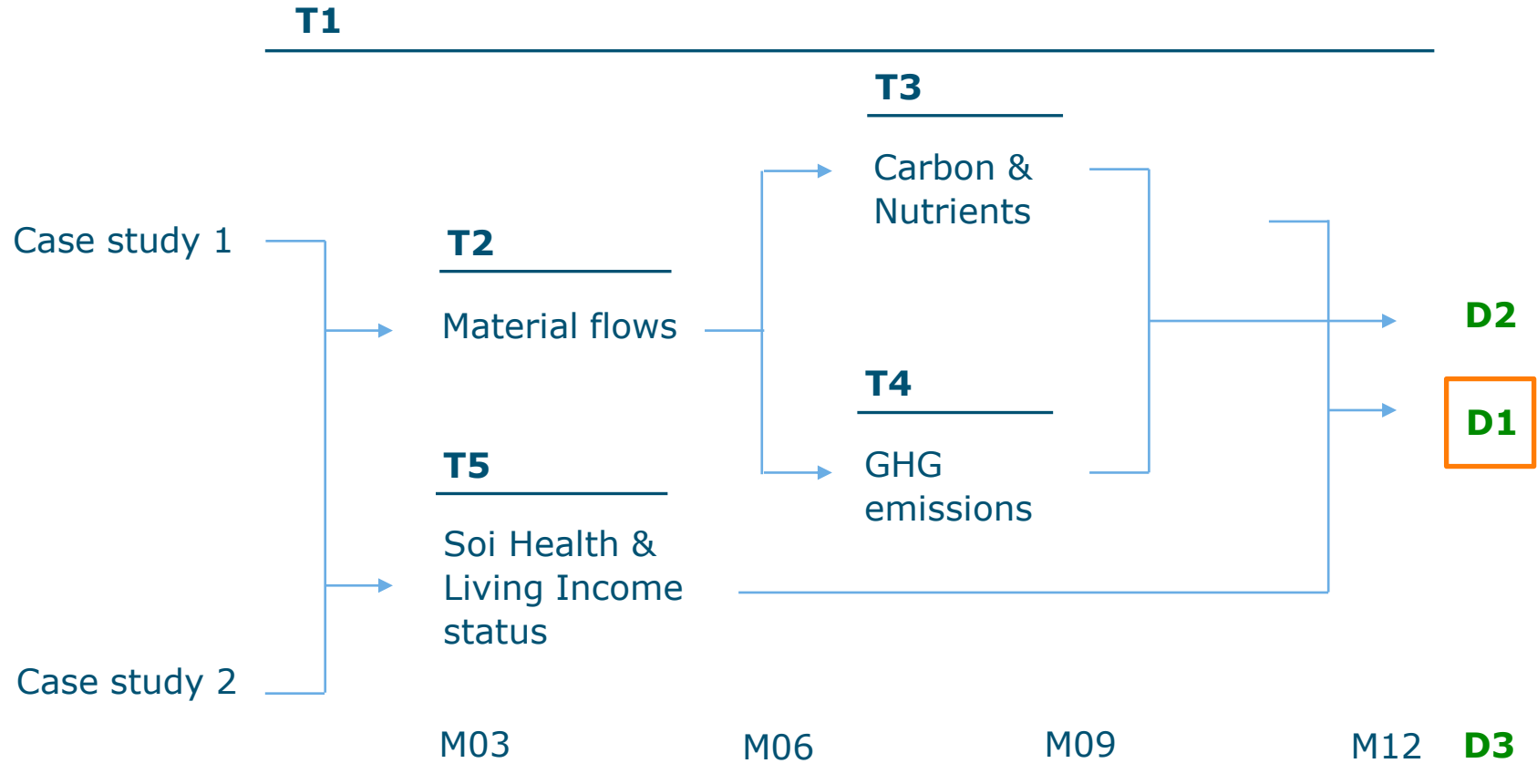
Tasks/Deliverables



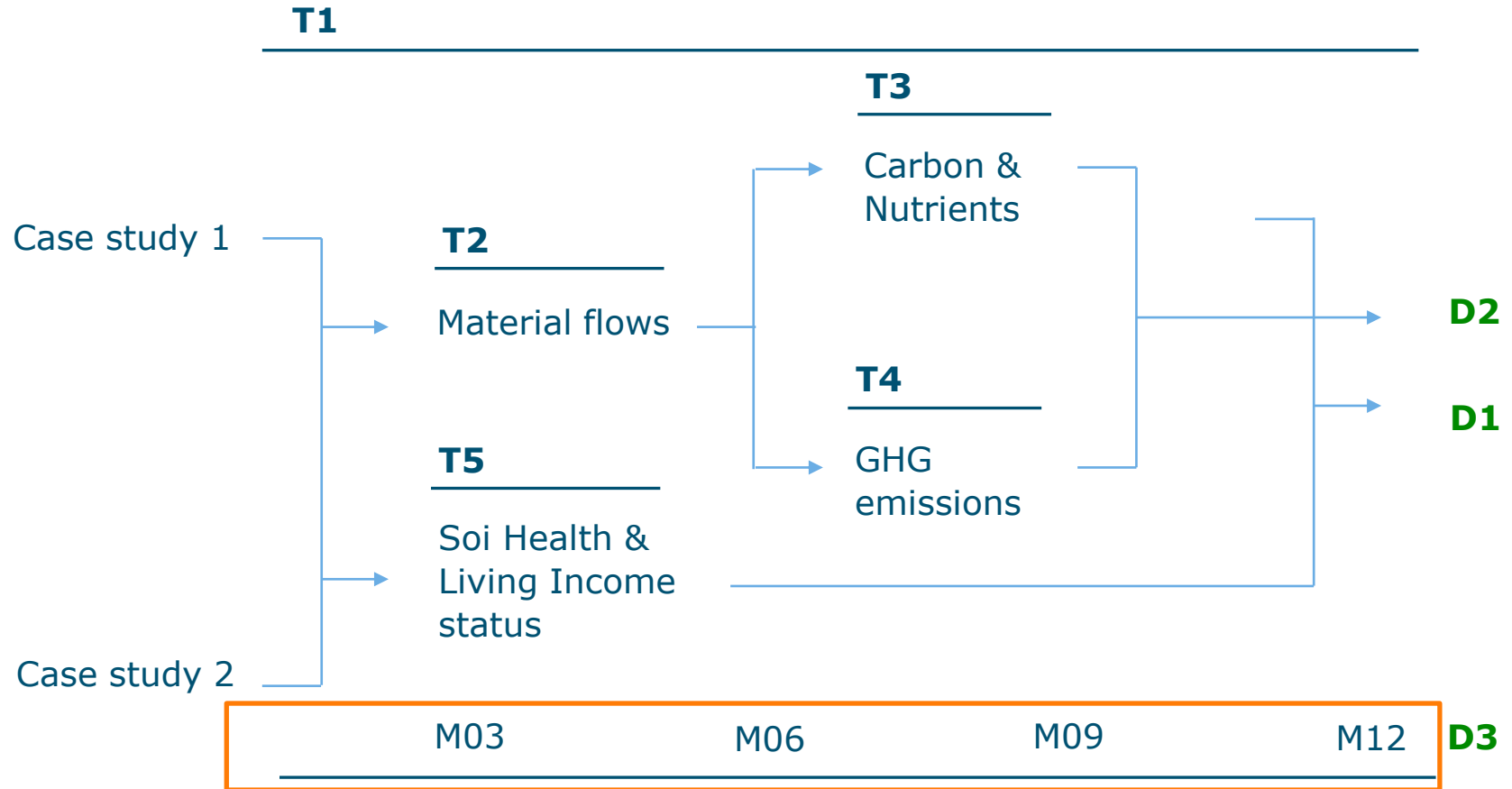
Tasks/Deliverables



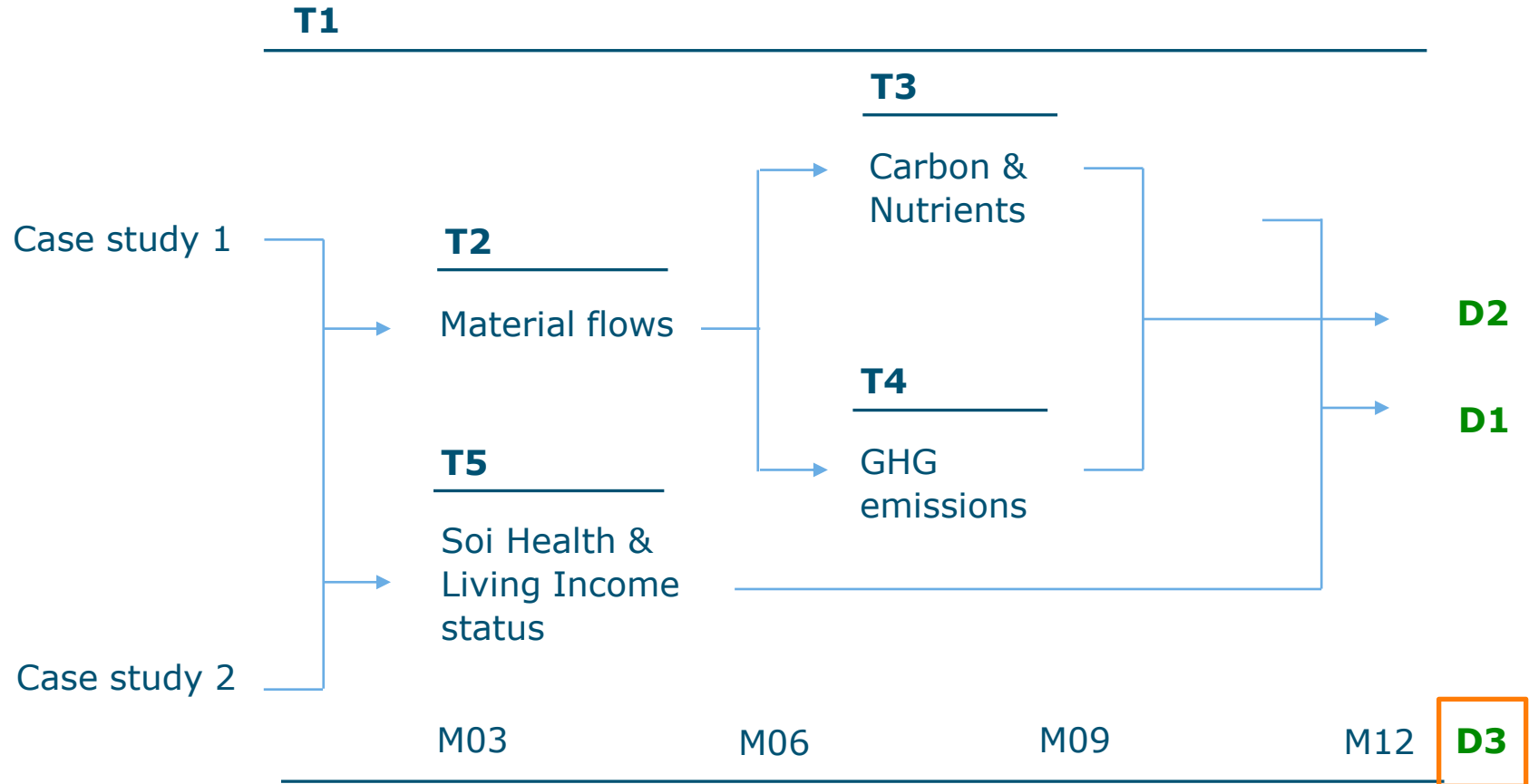
Tasks/Deliverables



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Tasks/Deliverables




Thank you for
your attention!

Questions?

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To explore
the potential
of nature to
improve the
quality of life