Global TraPs

Global transdisciplinary **p**rocesses **p**reparing for sustainably coping with **p**hosphorus from a **s**upply chain perspective

Newsletter
December 2010
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Welcome to Global TraPs

The Global TraPs project is taking shape. Core members from the academic community and from government organizations are joining the project team. We are starting to communicate with potential participants from industry and to identify project resources.

Track our progress and learn about organizations who will participate by visiting the Global TraPs website.

Events

The Global TraPs project will be presented at the following places:

December 13–15, 2010: BALTIC21 International Symposium about *Protecting water bodies from negative impacts of agriculture: Higher P utilisation for reduced P loads*, Goslar, Germany.

February 3–5, 2011: GT workshop at the *Sustainable P Summit*, Arizona State University, Tempe, Arizona.

March 31–April 1, 2011: *First Advisory and Steering Board Meeting*, ETH Zurich, Switzerland.

August 29, 2011: *Global TraPs Preconference Workshop*. Preceeds EAAE 2011 Congress: *Change and Uncertainty*, August 30–September 3, 2011. Both events will be held at ETH Zurich, Switzerland.

The Phosphorus Challenge: managing a resource with complex patterns

Humans have, largely through industrial phosphorus (P) fertilizer use, doubled or tripled global P cycling when compared to its natural flows. Recognizing that industrial P fertilizer is already a constraining soil nutrient affecting crop yields in many world regions, concerns are mounting about the limited supply of rock phosphate that is the main ingredient in P fertilizer. Moreover, the myriad paths that P fertilizer follows after it is applied to farmlands – as crops for food, as crop residues used for livestock fodder, as run-off to surface waters, or lost in leachate that goes to groundwater, for example – pose fundamental challenges for sustainably (re) using P. At risk are the health of our aquatic ecosystems, which are choked by agricultural P fertilizer run-off, and global food security, which is vulnerable to rising fertilizer prices that would result from declining global phosphate rock supplies later this century. To address 'the phosphorus challenge,' The NSSI (Natural Social Science Interface) team at ETH Zurich proposes a global, multiple case, transdisciplinary study. The project is called *Global TraPs project: **Global tra**nsdisciplinary **p**rocesses **p**reparing for sustainably coping with **p**hosphorous from a **s**upply chain perspective*. The goal is to build knowledge about how humans can make transitions towards more sustainable P use.

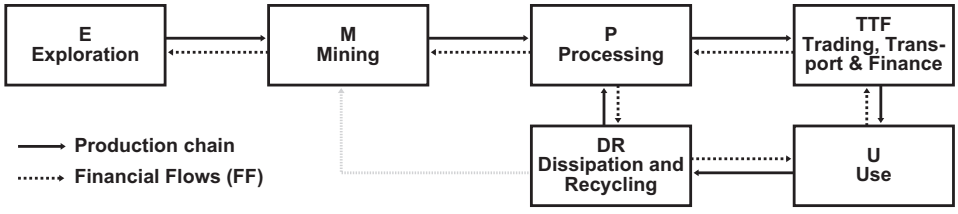

Figure:
The Phosphorus Supply Chain

A global, multiple case, transdisciplinary project – organized along the P supply chain

A primary focus of the Global TraPs project is to create a better understanding of P use along the P supply chain (including demand functions). The Global TraPs project will comprise a network of transdisciplinary case studies that focus on issues at various 'nodes' of the P supply chain. Thematic working groups will be organized for each node: Phosphorus exploration (Working Group E), phosphate rock mining (WG M), P rock processing (WG P), phosphate use (U) as "case studies" (WG UCS), phosphate dissipation & recycling (WG DR), and P product trading, transport & finance (WG TTF) along the supply chain.

Timeline and Outcomes

The Global TraPs project is focused on several broad outcomes: 1) produce socially robust orientations towards sustainable phosphorus management through transdisciplinary processes, 2) set priorities on a world scale, 3) prepare for biogeochemical management of the P cycle, and 4) diagnose distributional 'North-South' injustices between developed and developing world regions, particularly as they relate to hunger and malnutrition. The project is slated to run from 2010 to 2015, with its core phase in 2013 and 2014. Exchanges among working groups will occur at several Global TraPs symposia and through other forums throughout the project.

Phosphorus Phact

Did you know that Nauru, a phosphate rock island located in the South Central Pacific that is the world`s smallest independent republic (21 km^2, 13,300 inhabitants) once had the highest per capita income in the world due to its phosphate mines and exports?

Contacts

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For updates about the Global TraPs effort, visit our website:

»» http://www.uns.ethz.ch/gt

Figure: The Gloabl TraPs Project Timeline