

Expert Panel on Nitrogen and Food (2)

Meeting on 11/5/2016 – Minutes

The Expert Panel on Nitrogen and Food 2 hold its kick-off meeting at OECD/Paris during the TFRN-11 meeting. The meeting consisted of two sessions: a 'plenary session' being parallel only with the ECCA panel and a parallel session. The plenary session was attended 20 participant (see above), the parallel session was attended by 3 participants

Plenary Session

AL opened the session with a brief introduction on EPNF-1 and the basis for the continuation of the EP, the 'mandate'

Due to the high ambition of EPNF2 and the characteristics of the 'product' (ie. Report to the Parties of the Convention), AL proposed to conceptualize different chapters as individual peer reviewed paper, to be published synchronized, possible as a special issue of a high-impact journal.

The plenary supported the concept of underpinning research of the EPNF2-report as individual peer-reviewed papers.

Note: During the TFRN plenary, MS noted that a publication in peer-reviewed papers might undermine the impact of the report (ie. press release, media event) if the papers cannot be effectively embargoed until the 'launch' event. Further discussion is therefore needed to maximize the overall impact of the Expert Panel's work.

Most of the discussion regarded the 'content' of the work to be done, guided by the proposed outline of the report. Discussion points are therefore reported together with final report's structure, as of after the two sessions.

The plenary generally supported the presented the proposed objective and content of the work for EPNF-2, however with some discussion points made:

- EPNF2 should consider socio-economic effects, with regard to farmers, but also other **food chain stakeholders**, food processors and retailers. Retailers have an important role of influencing consumers' choices. The benefit of all stakeholders should be assessed. It will be important to engage with food chain stakeholders. However, some food chain stakeholders had already been addressed but there was no response so far. Already in the Joint OECD/TFRN workshop it was explained that the ambition of the EPNF-2 cannot be a comprehensive Food and Nutrition Security (FNS) assessment (as for example done in the SUSFANS project) thus the economic dimension of FNS goes beyond what EPNF2 can deliver. However, economic feedback effects (leakage) are explicitly included, and the economic models available so far do include a series of economic indicators for farms (though not for food chain actors). *Action point*: TF chairs/fertilizereurope to try to engage food chain stakeholder (mainly food processors, retailers)
- The economic effects considered should consider, amongst others, trade and land. **Leakage effects** might lead to the annihilation of (part) of emissions reductions that can be achieved

in Europe, if looked at from a global perspective. However, one of the most important consequences of shifting European food system toward a higher degree of sustainability might be its role in taking global leadership, possibly changing the **transition pathway** of developing countries away from a currently unsustainable target. While this effect will not be included in the quantitative economic modelling, it must be included in the qualitative assessment. Also in Europe 'optimum' diets are difficult to be met, but are important for the formulation of **policy goals**. **Trade-offs** between various objectives should be assessed.

- **Consumers' preferences** depend – amongst others – on education. Not always though does the availability of information lead to 'rational' decision of food choices, thus there are additional barriers to overcome.
- The **target audience** is important. It was discussed that this should be policy makers
- EPNF2 should avoid starting with the 'conclusion' that reduced meat intake should be the main target of optimized diets. Arguments brought forward include other land occupying crops without obvious nutritious benefit, landscapes profiting from animal agriculture, the aspect of food 'as enjoyment'. It was confirmed that EPNF2 won't use any pre-judged scenarios, but the **Diet-RAPs (representative agricultural pathways)** will be constructed in consistency with possible 'futures' according to the different SSPs being developed in support of the IPCC AR, and on the basis of nutritional aspects. Typical diets will also have typical farming systems linked (e.g. grass-based animal agriculture).
- The definition of **balanced diets** includes also consideration of food ingredients beyond the main food component (important for processed food). Important is to not only consider diet composition but also address **overconsumption**. Another aspect to consider is the **seasonality of food supply** (e.g. sheep meat).
- **Animal welfare** is an important aspect when assessing diets including livestock products. Animal welfare is influencing consumers' choices and is also relevant for emission levels of herd sizes. *Action:* PJ will contact with a research group who could contribute to this topic.
- **Food poverty** is an issue also in Europe (e.g. impact of recent recession) and distribution of diets should be considered to ensure 'realistic' storylines. *Action:* PJ will make contact with a research group who could contribute to this topic.
- **Food losses** are important and will be dealt with in Part I on the part of biomass streams. Important to highlight that this will – in combination with the farm level NUE – allow the quantification of the **full-chain NUE**. There is a difference between food chain losses and household food wastes which is part of consumers' choices/preferences and part of the diet-RAPs.
- The description of specific **case studies** needs to be included.

The plenary agreed to the general outline and structure of the report, with some comments made as listed below:

- The presented structure suggested a focus on the consumer (in contrast to the ‘technosphere’ at farm and food chain) and it was proposed to move Part I to a later point. However, several statements supported the current structure as (i) one of the key questions is to evaluate the potential contributions of the supply versus demand side to Nr emissions related to the food chain (farm to fork); (ii) the main chapters in Part IV give equal weight to supply and demand for food; (iv) technological knowledge is a basis of mitigation policies and therefore a natural entry point for the report; (v) a description of the full food chain and its possibilities for mitigation is suited to ‘setting the scene’ for the report.
- The health model has been recently published (Springmann et al., 2016) and would not provide ‘critical mass’ for a separate chapter. To emphasize also the integrative role of the application of the food health model, this chapter has moved to Part IV (and merged with the introduction of the representative diet pathways, RDIPs)
- More emphasis is needed to highlight the importance of the Full-food chain NUE, and case studies were so far missing. An additional chapter in Part I (Full chain NUE in Europe and case studies) is therefore proposed.

The parallel session focused on the Chapter: **Representative diet-pathways: the health cost of diets.**

The following main conclusions were:

- Assessment of the cost of ‘unhealthy diet’ will be done with the method developed in (Springmann et al., 2016). MS gave an overview of the methodology, which is based on dose-response relationships assessed for diet and weight related risk factors for coronary heart disease, stroke, type-2 diabetes, cancer, and ‘other’ non-communicable diseases. Assessment is done in the basis of food/food groups, not (micro)nutrients.
- The chapter will cover the following aspects: (i) define diets based on (qualitative) Representative Diet Pathways, and (quantitative) results from Part II and Part III; (b) calculate health impact; and (3) integrate with economic models to provide estimate of costs for health and environment.
- Representative Agricultural Pathways (RAPs) are under development by the AgMIP Global Economics Team, chaired by PIK. EPNF-2 members will propose cooperation with AgMIP in order to include Representative Diet Pathways into the work.

Action points

- TF chairs/fertilizereurope to try to engage food chain stakeholder (mainly food processors, retailers).
- PJ to contact groups who will bring knowledge about food poverty and animal welfare.
- BB to clarify details for the development of RAPs and RDIPs in cooperation with

Current outline of the EPNF-2 report (status 11/5/2016)

PART 1: Food Chain Nitrogen Use Efficiency
Chapter: The limits of Farm-scale NUE
Chapter: Food losses and circular nitrogen flows in the post farm gate food chain
Chapter: Full chain NUE in Europe and case studies
PART 2: The relevance of Nitrogen for the consumer
Chapter: Nitrogen and Dietary recommendations & nutrition scores
Chapter: Nitrogen-smart diet choices: Alternative protein sources
Chapter: Health effect of Nr losses in the food chain (<i>via air and water pollution</i>)
PART 3: Getting the consumer involved
Chapter: Policies and societal changes
Chapter: Consumer choices – econometric evaluation
Chapter: Nitrogen Neutrality: Concept and applications
PART 4: Making the case: nitrogen and food
Chapter: Representative diet-pathways: the health cost of diets
Chapter: Healthy and nitrogen-smart: trade-off or win-win?
Chapter: Reduction of N pollution: improved supply versus changed demand

The current planned time schedule is the following:

- Autumn 2016: Ideas ready for each chapter and presented/discussed at a meeting (to be defined, likely October)
- Spring 2017: Draft papers ready and presented/discussed at the next TFRN meeting, EPNF session (May 2017); discussion of draft EPNF report
- Summer 2017: draft EPNF report due
- Autumn 2017: Final papers ready and possibly submitted to common Special Issue (to be defined/clarified)
- End 2017: final EPNF report due