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NORSK INSTITUTT FOR  
BIOØKONOMI

## NOTAT

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## Høringsuttalelse til Helsedirektoratet vedrørende nye nordiske ernæringsanbefalinger (NNR) - kommentarer til utkast for hovedrapporten *Nordic Nutrition Recommendations 2023 - Integrating environmental aspects*.

I regi av NNR 2022 er det tidligere utarbeidet bakgrunnsrapporter, som grunnlag for gjeldende utkast til hovedrapport '*Nordic Nutrition Recommendations 2023 - Integrating environmental aspects*'

NIBIO viser til tidligere innspill til bakgrunnsrapporter på miljømessig bærekraft og har med dette avgitt høringsuttalelse til hovedrapporten, oversendt Helsedirektoratet den 26. mai (lastet opp [her](#)). Høringsuttalelsen er skrevet på engelsk, og gjengitt i sin helhet i dette notatet.

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In this public consultation input, NIBIO focus solely on the parts of the report involving considerations on environmental sustainability, which is our main domain of expertise, related to this report.



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## Overall comments

The analyses performed, including its interpretation, on the environmental sustainability and environmental effects of the production of food groups and food consumption are regarded as very weak. More precisely:

- ✓ The conclusions in the report are not based on sound and region-specific analyses of the environmental impacts caused by producing food.
- ✓ Overall recommendations rely on unclear and/or weak methodology and framework.
- ✓ Environmental considerations are almost exclusively focused on GHG-emissions and are also superficially addressed.
- ✓ There is a clear bias in which and how many indicators that are included in the environmental assessments, in particular for livestock production.

Our arguments are further detailed in the next section.

Moreover, principally we also question the use of the five background papers. In the report, all five background papers are used as main references (references #25-26 and #66-68) for the environmental considerations. As far as we know, all five papers are still at a manuscript or draft stage, thus not through the required peer-review process (i.e., neither in press or published in any scientific journal).

Aforementioned flaws are unlikely to be corrected due to the short time available before publishing of the report (due on June 21, 2023). Consequently, all considerations related to environmental sustainability in the report must be interpreted and further used with high caution.

## General comments

### 1. Important analysis is lacking

In the report, it is stated (p. 5), that the science advice developed are based on “...*the country-specific environmental impacts of food consumption*”. However, agricultural methods related to food production and food systems, are however, not considered.

We strongly emphasize the need to include the methods used to produce the food, including a complete analysis of the food systems, and their resulting effects on the environment. This is of outermost importance when environmental considerations should be integrated into food-based dietary guidelines. In Norway, about 60% of the food consumed (on energy basis, corrected for feed import) is imported. However, there are large differences between food groups in terms of the degree of self-sufficiency. For meat and dairy products, the proportion produced domestically is generally very high (80-100%), whereas for e.g., fruit and berries it is very low (ca. 5%). Moreover, numerous scientific studies have shown that there may be huge environmental effects of relatively small adjustments in the agronomic management within most productions, e.g., timing and method of tillage, timing, distribution method and amounts applied of fertilizer and chemical plant protection use and dosage, crop rotation including variety selections, harvest frequency, etc.



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Hence, detailed data at high spatial resolution is required when analysing environmental impacts of food production in this report, in particular for products with high degree of self sufficiency.

Moreover, instead of using data from relevant Nordic studies on environmental impacts of food production, a very limited number of general/global studies were used to characterize the environmental impact related to producing the food consumed in the Nordic countries. These general data used, deviate from the national and region-specific data and studies.

Meaningful evaluation of the environmental impacts of food production and consumption is, in our professional opinion, impossible without a thorough, region-specific analysis on the environmental effects caused by producing this food.

## **2. Unclear status of the underlying background papers used for developing the report and its science advice, which is a significant limitation for this consultation**

To our knowledge, the latest available versions of the five background papers on environmental sustainability appear to be those being submitted to public consultation (see the web-link; references #25-26 and #66-68). The public consultations on those papers obviously provided a large number of critical and crucial comments on all five papers (see the NNR webpage and the excel-sheets). In our understanding, these numerous feedback warrants major revisions. Two of the papers, are still not completed.

Moreover, information on which comments, and to what extent they were addressed in the following revision, along with the actual revisions are yet not published. This is an expectation in the process of a public consultation.

## **3. It is unclear how the background reports and other reports were used and internally weighted to come to the conclusions**

Whereas the background papers were used as “*basis for the assessment*” of the environmental effects, the IPCC and the IPBES-reports are “*pillars in the evaluation of environmental impacts*”. The implication of this on the overall recommendation is unclear. Does it imply that these two “pillar reports” were given more weight than the background papers?

We also notice that some important advice and conclusions in the background papers (i.e., in the versions made available for public consultations) appear to be neglected in the further process leading to the final report. For example, the limitations of the use of LCA for environmental assessments were clearly specified in paper 1 (“*Assessing the environmental sustainability of diets – an overview of approaches and identification of 5 key considerations for comprehensive assessments*”). These limitations were summed up in the conclusion of that paper to the following statement: “*...there is a need for more detailed analysis to capture the inherent nuances of more location and context specific situations*”. In a wider perspective (beyond LCA), the need for nuance and context was also clearly stated in key point 5 (consider context) of paper 1. In paper 2, which



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relied heavily on LCA-data, the point was briefly mentioned in the text, but not included in the considerations leading up to the conclusions.

The advice to handle LCA-data with care in the background papers is obviously not reflected anywhere in the text and in the recommendations. Moreover, in the research field of environmental sustainability, there is generally a high degree of both temporal and spatial heterogeneity. This implies that even more caution should be paid when going from data assessment to firm conclusions on environmental sustainability.

#### **4. Planetary boundary values are highly disputed and uncertain**

The term “planetary boundaries” is mentioned in the report and claimed to be used as part of the fundament for the scope and mandate from the NCM (p. 23), namely Declaration on Biodiversity (MR-MK, 03.05.22) and Sustainable food systems (MR-FJLS, 24.06.21). We note that the NNR-project was described and funded some years (in 2018) before these declarations were made and approved.

When evaluating dietary patterns (p. 149) in the current report, it is stated that “*The current average Nordic diets exceed multifold the planetary boundaries related to GHGE, cropland use, biodiversity, nitrogen use, and phosphorus use.*” We would like to recall that both the planetary boundary framework and the numeric value of each boundary are highly disputed. We addressed this issue thoroughly in our consultation statement related to paper 2, apparently without affecting the use of this disputed approach in the NNR-report. We would therefore repeat some of the criticism.

Springmann et al. (2020) stated that “*The planetary-boundary framework is not without criticism, particularly because of the heterogeneity of the different boundaries and their underlying scientific bases, including the difficulty of defining global ecosystem thresholds for local environmental impacts*”. Planetary boundaries may represent a concept, which illustrate the risks for irreversible effects on living organisms and on the physical environment at the global scale attributed to some human-driven activities. We find the use of this approach, to evaluate quantitatively the environmental impact of food production in the Nordic and Baltic countries, inappropriate. If the point was to “*indicate a range of impacts in a comparative way across the Nordic and Baltic countries*” (paper 2), this could be done without involving the planetary boundaries.

#### **5. The assessment of environmental effects related to the production of red meat and dairy products is largely focused on GHG emissions and based on very limited, generalized and biased data**

When assessing red meat and dairy products, GHG emissions appear to be given a large weight. Although it is mentioned in the report that emissions in the Nordic countries may be less than those given by the global figures, it significantly weakens the conclusions that region-specific data



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on emissions appear not to be considered. In e.g., Norway, both pork meat production and meat produced in parallel with milk emit far less than the global figures used in the background papers (available versions) indicate.

In the report (page 137 and 138) it is stated that *“For environmental reasons the consumption of red meat should be considerably lower than the 350 grams/week (ready-to-eat).”* Such a quantitative conclusion on the environmental impact, cannot be found in any analyses in the five background papers.

Another weakness is the lack of discrimination between the different meat productions, both in terms of the use of feed concentrates and the reliance on feed imports. For example, in Norway, white meat is produced by 100% feed concentrates in the diet, of which roughly 50% is imported, with about 20% of the total as soy-products. In comparison, ruminant meat is produced by 0-40% feed concentrates, of which 5-15% is imported, thereof about 5% soy products. Moreover, there are large differences even within the ruminant-based production (such as dairy production, production of suckler cows, beef, sheep, etc.) in terms of diet and feed origin, and thereby also its environmental footprint.

The selection of indicators and their qualitative usage in the report is biased. None of the numerous studies showing positive environmental effects of bovine productions, such as reduced erosion and pesticide use, or enhanced carbon-sequestration and biodiversity, is cited. A comprehensive analysis of environmental impact of food production, as should be expected for the NNR2023-report, requires more than some superficial considerations of GHG-emissions and an unsystematic listing of a very limited number of environmental indicators.

The negativity bias for meat is also apparent when comparing the assessment of for example vegetables. In table 16, vegetables are assessed to have “general low sustainability impacts”, despite relatively high use of chemical plant protection (mentioned in the text) and fertiliser usage, relatively high risk for soil erosion, nutrient leaching/runoff and soil degradation (not mentioned).

The contrast to how meat is assessed is even more striking when looking at the corresponding assessment of fish, in particular farmed fish (p. 135). Here the conclusion appears to be relatively low GHG-emissions (although they are significantly larger than a Norwegian study on pork meat production; Bonesmo and Enger, 2021), although it is further stated that *“Aquaculture may put pressure on the environment, for example due to land use, freshwater use, spread of disease, and chemical pollution”*. This is a remarkable weak statement, considering for example that the emission of phosphorus (P) from Norwegian fish farms directly into the fjords and marine waters amounts to 12,200 tons/yr compared to around 800 tons/yr from agriculture (Sample, 2023). Moreover, the consumption of soy-products in the feed to the fish farms in Norway is about 2,5 times higher than that used in the Norwegian meat production, and the import share of the fish fodder is 92%.

## Literature

Bonesmo, H., Enger, E.G. 2021. The effects of progress in genetics and management on intensities of greenhouse gas emissions from Norwegian pork production. *Livestock Science* 254  
<https://doi.org/10.1016/j.livsci.2021.104746>.

Sample, J-E. 2023. Kildefordelte tilførsler av nitrogen og fosfor til norske kystområder i 2021 – tabeller, figurer og kart. NIVA Report 7808-2023. <https://www.miljodirektoratet.no/publikasjoner/2023/januar-2023/kildefordelte-tilforsler-av-nitrogen-og-fosfor-til-norske-kystomrader-i-2021-tabeller-figurer-og-kart/>

Springmann, M., Spajic, L., Clark, M.A. 2020. The healthiness and sustainability of national and global food based dietary guidelines: modelling study, *BMJ*, 370 (2020), m2322. <http://dx.doi.org/10.1136/bmj.m2322>.