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Sendt: 15. november 2023 23:21
Til: Postmottak LMD
Emne: innspill bærekraftig matsystem energy fish inequality

This letter is written in English because a copy of it will be sent to some who read only English. The purpose of this letter is to provide some food for thought and possibly useful links to scientific journal articles/references with regard to the questions raised in "Nasjonal dialog om bærekraftige matsystem" (National dialogue on sustainable food systems). Reference links are in the text.

With regard to challenges with global food supplies, there is reason to believe the war in Ukraine may be just the beginning of our troubles. About 80% of the global energy supply comes from coal, oil and natural gas and the EROI (energy return on investment) for fossil fuels is declining (<https://www.iea.org/reports/world-energy-outlook-2023/executive-summary> <https://doi.org/10.1016/j.enpol.2013.05.049> <https://www.education.psu.edu/emsc470/node/557#:~:text=Thus%2C%20EROI%20is%20the%20ratio,of%20energy%20that%20was%20used>). Our civilization runs on oil, it is a critical supply chain component for 90% of all industrially manufactured products (<https://doi.org/10.1016/j.apenergy.2021.117843>). We will be forced to use less fossil fuels, quite apart from climate change. This isn't taken into account in the recent report "En gjennomgang av sårbarheten i globale forsyningskjeder for matvarer" (<https://www.regjeringen.no/contentassets/2617bce77a8240c784c5b4a1d55c12fd/oe-rapport-60-2023-med-vedlegg.pdf>). There is more which is not considered in that report, for example that in times of conflict trade may be cut off, but energy effects may be felt first.

The fish are moving north (<https://www.nrk.no/nordland/store-fiskesamfunn-forflytter-seg--det-gar-mye-raskere-enn-forst-antatt-1.13937644> <https://www.nrk.no/tromsogfinnmark/fisken-flytter-nordover-pa-grunn-av-varmere-hav-1.12366999> <https://doi.org/10.1038/s41598-020-73444-y> <https://e360.yale.edu/features/feeling-the-heat-warming-oceans-drive-fish-into-cooler-waters> <http://www.searoundus.org/warmer-waters-from-climate-change-will-leave-fish-shrinking-gasping-for-air/>). More can be said on the subject of fish (<https://doi.org/10.1098%2Frstb.2004.1574>), but we need to take into account that things are and will be changing, resilience means we need multiple backups, that is to say in a times of change we can't just count on eating fish.

The wealthy need to cut consumption/emissions or all other efforts are in vain (<https://www.ethicsandinternationalaffairs.org/online-exclusives/a-luxury-carbon-tax-to-address-climate-change-and-inequality-not-all-carbon-is-created-equal> <https://doi.org/10.1038/s41467-020-16941-y> <https://doi.org/10.1038/s41560-020-0579-8> <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621052/mb-confronting-carbon-inequality-210920-en.pdf>) This especially applies to the richest but also applies to the rest of us. This means more low-tech high quality lifestyles (bicycles, walking instead of driving feks., growing your own vegetables, drying clothes on a line etc. etc.) This will be - to paraphrase Theodore Roosevelt - Do what you can where you are with what you've got. As Herman Daly pointed out there is as much room for moral and ethical and technical improvement in a steady state economy as there is in a growth economy (<https://www.education.psu.edu/emsc470/node/557#:~:text=Thus%2C%20EROI%20is%20the%20ratio,of%20energy%20that%20was%20used>)