

Reconciling a positive ecological balance with human development: the role of population in low-fertility countries

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Abstract

To be sustainable, humanity needs to reduce its environmental impact. Although technology can reduce it while keeping human well-being, a positive correlation is observed between human development and environmental impact. Reconciling environmental sustainability and human development is hence a challenge, and the global population growth makes it even harder. Nevertheless, in some countries there is currently an opposite trend, with low fertility rates and, sometimes, depopulation. Here, I present a sustainability criterion based on two constraints able to reconcile environmental sustainability and human development if simultaneously satisfied. By analysing ecological and human indicators, I apply this criterion to low-fertility countries assessing which changes are required to fulfill both constraints. Results clearly show that many low-fertility countries have a high population compared with their biocapacity, making hard to achieve environmental sustainability only through technological improvements and/or consumption reduction. In many cases, they need a (further) population reduction in order to become environmentally sustainable without violating the human constraint.