

## ***Interactive comment on “Soil: the great connector of our lives now and beyond COVID-19” by Rosa M. Poch et al.***

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We thank Referee#3 for his/her comments. His/her first question is: "How do you propose to move forward effectively and prioritized to achieve it? I think that the main contribution of this article can be to create opinions and generate the necessary discussion on important issues for soil, agriculture, and its impact on humanity, such as what production and conservation alternatives are proposed by a world-class organization such as FAO, indicating how to implement its strategies."

A/ As you indicate, those initiatives in the frame of "slow food" movements around the world are being proved successful to ensure resilience of the societies around the world in the present crisis, and therefore we have added some examples of them:

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"Several initiatives, since the onset of the pandemic and the beginning of food supply problems, have appeared around the world demonstrating that it is possible to improve food sovereignty thanks to the collaborative work of people. For instance, communities from Sabah (Malaysian Borneo), who are dependent on imports for 75% of their rice requirements are having problems sourcing rice from Vietnam and selling cash crops, have recovered their traditional practices and river culture to maintain their protein supply (Ong and Wilson, 2020). In Emilia Romagna (Italy), a region severely affected by the pandemic, farmer self-organisation has ensured the provision of local food making shorter chains (Diesner, 2020). Other initiatives, such as Slow Food Gardens in many countries in Africa, are strengthening rural small-scale producer communities and therefore ensuring food supply (Mukiibi, 2020)."

In relation to your suggestion to move forward from the 5 proposed strategies, the Global Soil Partnership of the FAO is structured in 5 pillars of action from its beginning in 2012: (1) Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity; (2) Encourage investment, technical cooperation, policy, education awareness and extension in soil; (3) Promote targeted soil research and development focusing on identified gaps and priorities and synergies with related productive, environmental and social development actions; (4) Enhance the quantity and quality of soil data and information: data collection (generation), analysis, validation, reporting, monitoring and integration with other disciplines; (5) Harmonization of methods, measurements and indicators for the sustainable management and protection of soil resources. This means that FAO is already involved and working in most of the strategies. We included a sentence referring to it:

"From its inception in 2012, the Global Soil Partnership of FAO is working in all these aspects through its five pillars of action (Soil management, Awareness raising, Promoting research, Information & data, Harmonization), which will acquire more importance in the light of the global crises."

The second question of Referee#3 is: "Is it not time to recognize that the human popu-

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lation cannot, and should not continue to grow at the current rate, and initiate powerful awareness-raising actions in this regard? Should not we start talking and writing about the need for conscious population control to really guarantee soil, food, water, and life sustainability?"

A/ Your question is indeed controversial, and certainly we agree that human population growth is the main aspect of agricultural sustainability and food security. But it has ecological and ethical implications whose discussion falls out of the initial scope of our manuscript; moreover, this is a sensitive subject when so many lost family members and friends all over the world, due to the pandemic. Nevertheless, we have added a sentence pointing out the importance of this issue in section 3: "It will also be increasingly important to ensure that populations do not exceed the carrying capacity of the lands on which they depend."

Some researchers estimated 20 y ago that world soils can still feed an increasing world's population if well managed (see, e.g. Eswaran, H., F. Beinroth, and P. Reich. 1999. Global land resources and population supporting capacity. *Am. J. Alternative Agric.* 14:129-136) but boundary conditions are very variable and uncertain. But, we believe that the ITPS five active strategies, to have enough productive soil that can be managed sustainably to feed the country's population, access to land, sound land use planning, sustainable soil management, research, and education and extension, also carry the benefit of human population control, though education and awareness of the limits of the land to produce in a sustainable way. Many experiences from FAO and other organizations show that one of the most effective means of raising the general level of development and promoting sustainable development is the education and empowering the woman in poor developed countries, with significant reduction of fertility rates (<https://www.worldbank.org/en/topic/girlseducation>) (<http://www.fao.org/3/W6038E/w6038e02.htm>)

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