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# Environmental sustainability - Water conservation – Better irrigation practices

## In general

The known main problem is that farming needs a lot of water. We can see this through history too, as ancient cultures used a lot of water for their irrigation systems even after the revolution of farming. Today when we don't produce food where we eat it but we produce it in the specific regions of the world, as you can see below.

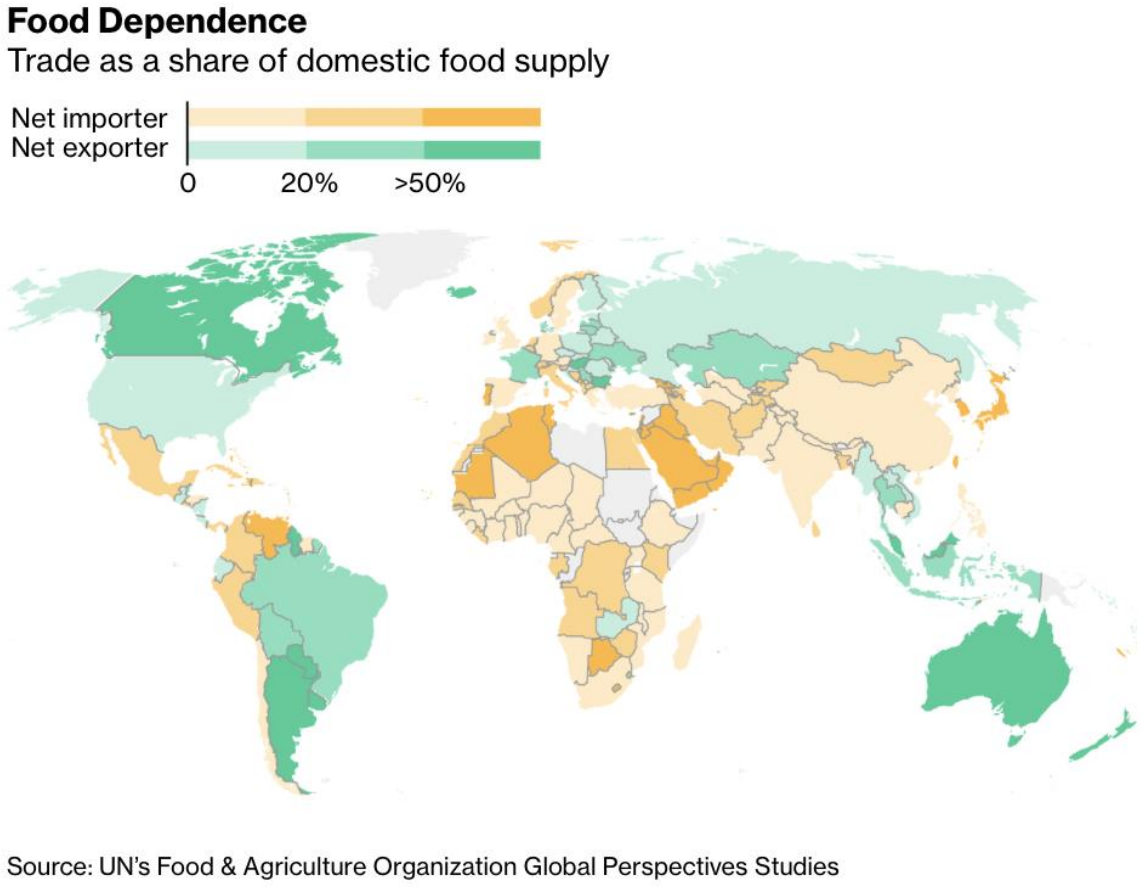


*Figure 1 food dependence (Good, 2020)*

This means that we produce food on big farms and not in small gardens, which also means that these regions of the world use more water from their local water reserve than the other part of the world, which means that the water usage in these regions is a key question from the viewpoint of the future farming.

The other part of the problem is that not every water is preferred in irrigation. Also, we can talk about the problem abut the climate change and the decreasing number of rains. „Soil moisture drops in periods of deficient precipitation."(*Improvement of Irrigation Efficiency — Climate-ADAPT*, 2016) These

problems probably will reverse water savings and also territories which today don't need irrigation will use it.

„Innovative irrigation technology is generally promoted as raising water-use efficiency along with multiple benefits, but these remain elusive in practice [...] Water-efficient irrigation, irrigation on-demand and irrigation using brackish water are technologies that will enable the better husbandry of more scarce freshwater resources. Technological developments in respect of irrigation will encompass sensors and communication, intelligent watering systems and high-efficiency delivery mechanisms for water and nutrients"(Levidow et al., 2014)

It's also a key term to understand that we have greater pressure if we are closer to the source of water or the water pump station(Todd Lowe, 2015). This means in that case we don't need such a high amount of water.

„You can improve irrigation efficiency by irrigation scheduling, adopting practices such as deficit irrigation and conservation tillage, and installing more efficient irrigation systems. [...] There is a seasonal demand pattern for water, which varies by crop. The optimal time to irrigate a particular field also depends on when the crop last received water and the soil water holding capacity"(C.C. Shock et al., 2013)

„The first step is to evaluate the current levels and costs of water and energy use related to irrigation and pinpoint where water and energy can be saved. Soil type, target crop types and water availability should then be assessed to calculate minimum water requirements and establish where it can be obtained. This should be carried out by an agronomist."(UN, n.d.)

## Conclusion

Smart farming unified with great agronomists can optimize the irrigation based on each case. These systems should be recalculated time by time because of climate change. Also globally we should consider importing water to those territories which export food to the rest of the world.

# Bibliography

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