Transformation of rural landscapes for sustainable and nutritious food systems in Myanmar

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IWRA Online Conference

9 June 2021

EAT LANCET Commission: healthy diets from sustainable food systems

Food is the **single strongest lever** to optimize both **human health** and **environmental sustainability** on Earth

Myanmar: food systems

- Abundant agricultural production at the national level does not translate into adequate food and nutrition security

- 33% of households nationwide report food insecurity (MMFCS, 2017)

- 35% of households reported inadequate quality of food in the past year (MPLCS, 2015)

Agriculture: a major driver of environmental degradation:

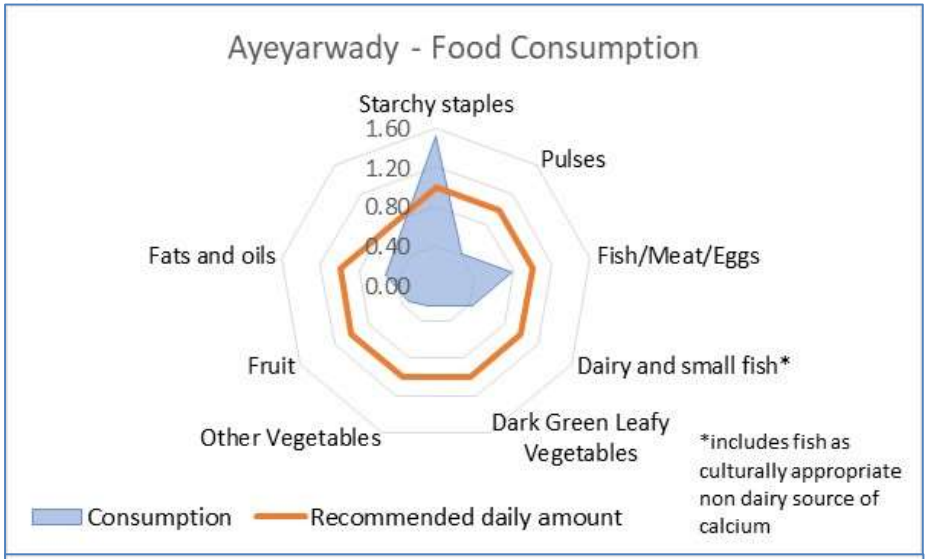
- Deforestation
- Mangrove loss
- Soil degradation
- Water and air pollution
- Fisheries decline
- Climate change

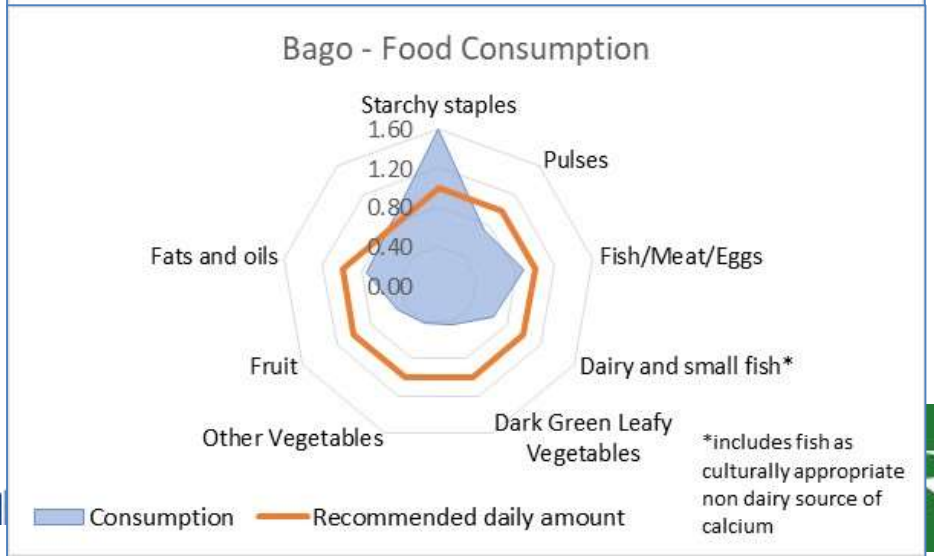
"…..natural environment is the foundation upon which Myanmar's social, cultural and economic development are sustained" (MSDP, 2018)

Diet "Gaps"

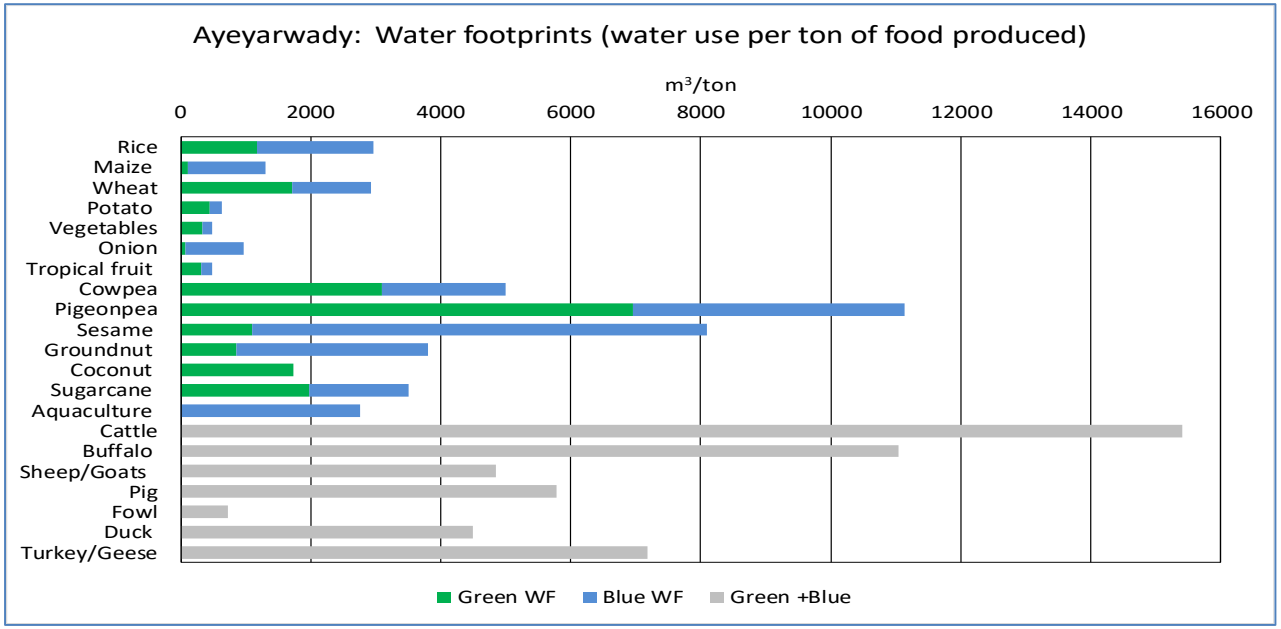
Comparison with Bangladesh Dietary guidelines

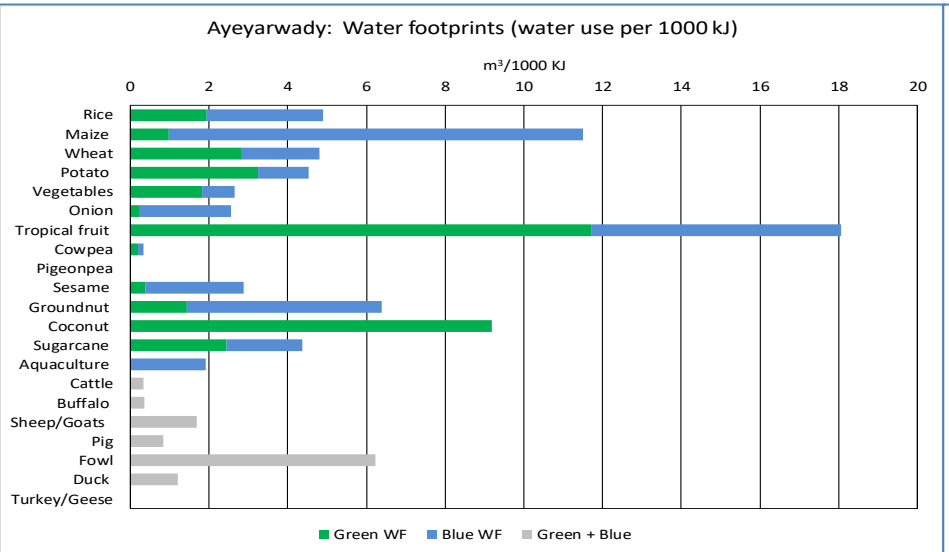
Food group	Average recommended quantity (g/adult/day)	Myanmar consumption (2010) g/AE/EP/day
Starchy staples	360	489
Pulses	45	22
Fish/Meat/Eggs	125	90
Small fish & dairy	225	95
Dark green leafy vegetables	150	53
Other Vegetables	300	103
Fruit	200	74
Fats and oils	45	30

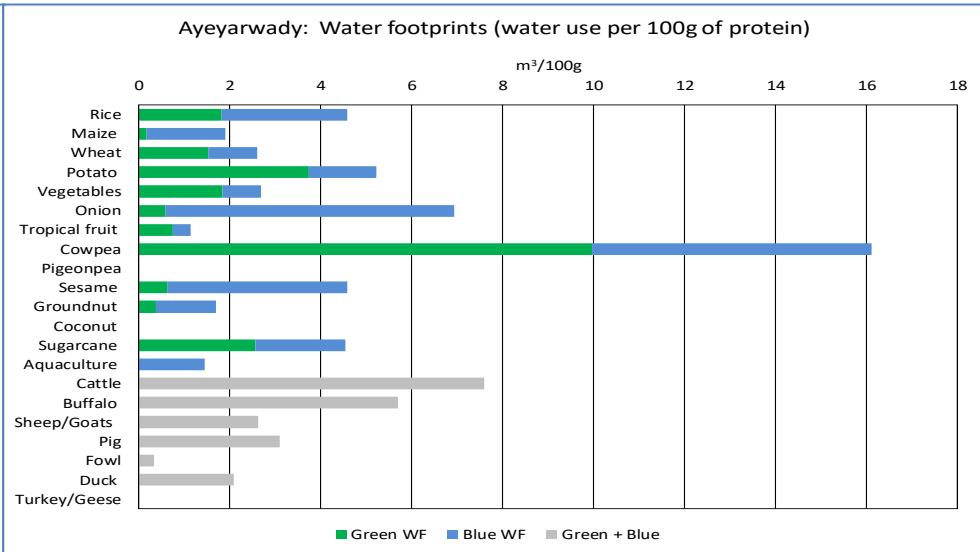




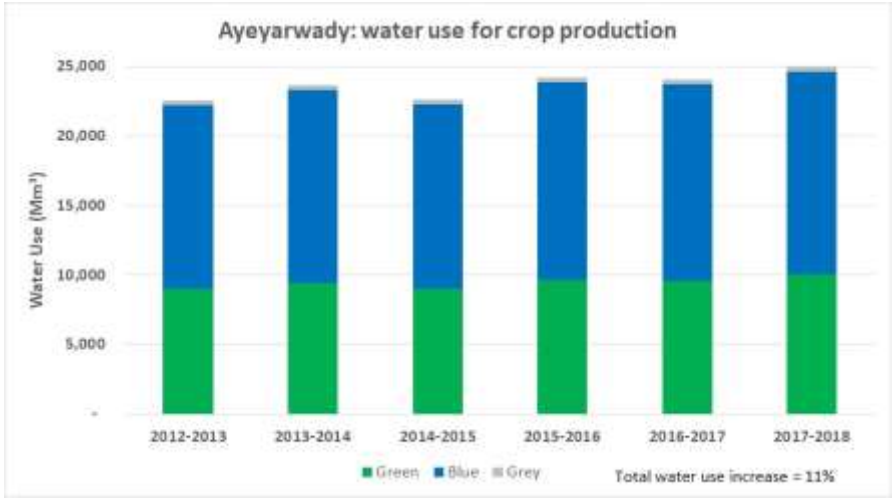
Water footprints

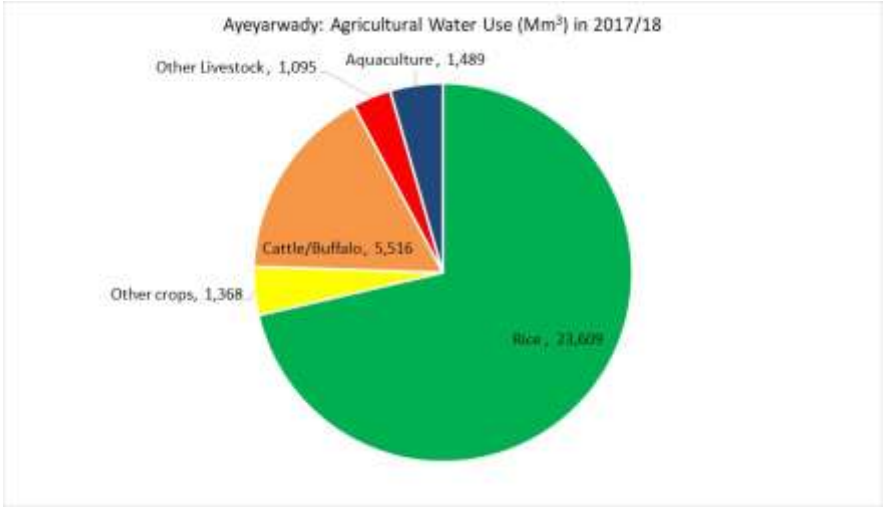


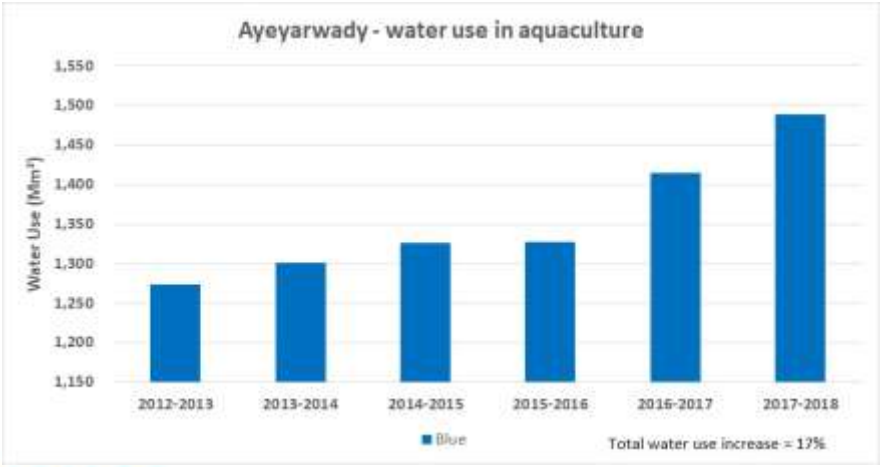




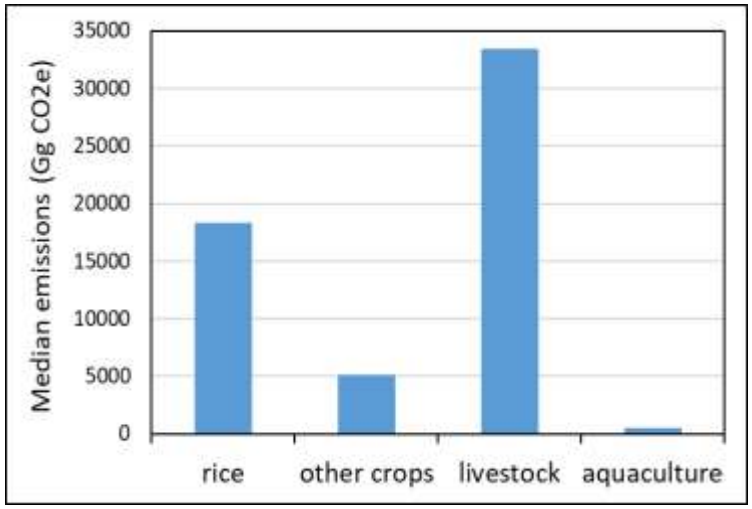
Water use of crops and livestock

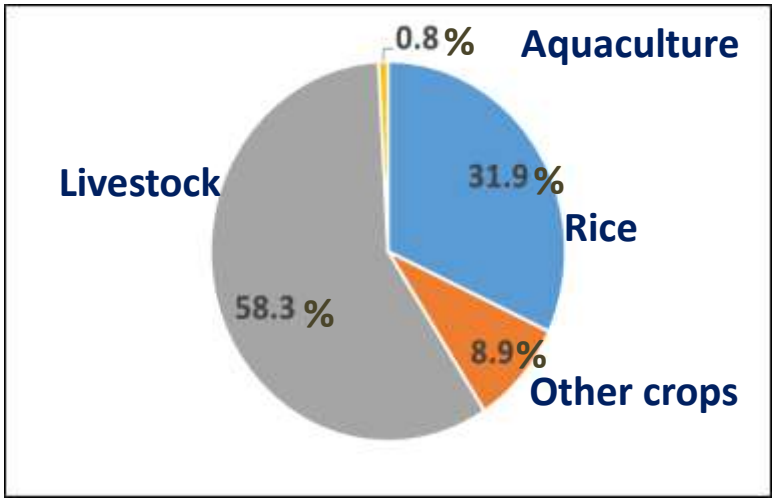


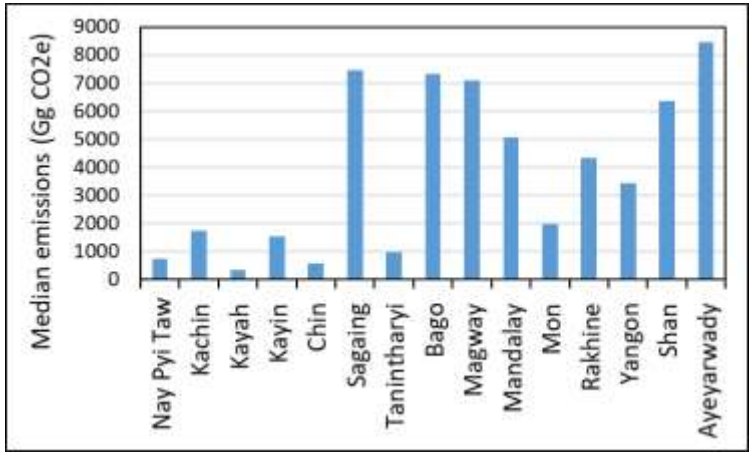


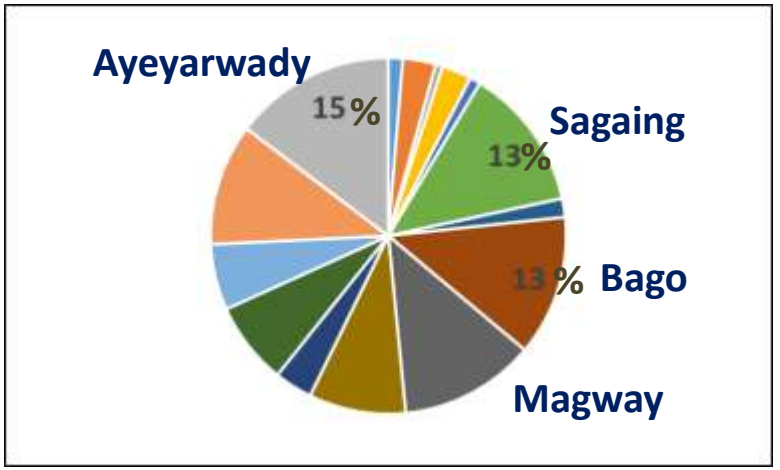


Greenhouse Gas Emissions









Greenhouse Gas Emissions

Total Median annual emissions 57399 Gg CO_2e

Category (Gg CO_2e Yr^{-1})	Median Estimates of current study	Year 2000 estimate (GHG inventory)	FAO annual average (2016/2017)
Total emissions: rice	18,310	10,652	25,530
Total emissions: livestock	33,465	8,501	42,000
NO_2 emissions: aquaculture	482	-	-
Total emissions: energy sector		7,863	

Conclusion

- Variation between states, but current dietary patterns are inadequate with respect to consumption of diverse nutritious food groups throughout the country
- Water footprints of agricultural products vary. Livestock use large amounts but rice dominates agricultural water use in most states.
- At national level agriculture (livestock and rice) is biggest source of GHG emissions across Myanmar
- Nutrition-sensitive fish agri-food systems should prioritise nutrient- rich foods and dietary diversity in agriculture development to combat malnutrition
- Food production for healthier diets could, if carefully designed, use less water and emit less GHG than currently.

For a healthier diet:

National fruit and vegetable consumption needs to double

Dairy alternatives (e.g. small fish - Mola) for the provision of calcium

Increase legumes and pulse consumption

Increase animal source foods for vulnerable groups (e.g women and children in first 1000 days of life)

Dietary need for a variety of fish species; optimise capture fisheries and the array of small indigenous fish species (including in aquaculture)


Thank you