

Balancing food security and greenhouse gas emissions from meat and milk production in SE Asia to 2050

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Abstract

Southeast Asia's human population is expected to rise by 100M by 2030, with an associated rise in animal product output in the region's low to middle income countries. Those with the largest population are forecast to continue their increasing poultry consumption. Regional pig meat consumption is also to rise, largely due to China, but much less in Muslim dominant countries. The forecast growth in the regional ruminant population is more modest and the greenhouse gas (GHG) cost per unit of human food protein generated is much higher for ruminants (3.5 – 5.5 kg/kg protein) than for pigs (0.3 – 0.5kg/kg) or poultry food protein (<0.1 kg/kg). Changing human diets away from ruminant or any animal sourced protein, is being explored to increase the human food supply at a lower GHG cost. However, with smallholder livestock production systems dominant across many regional countries, the positive social, land-use and broader economic roles of ruminants need consideration. Strategies to expand ruminant production but at a reduced GHG cost (emission intensity) are being pursued. Increasing individual animal product output through simple animal health and nutritional management decisions, can allow future food targets to be met at a lower GHG cost than if this additional food was produced by business-as-usual production systems. Since the Paris Agreement recognises the priority of food provision over emission abatement, it seems reasonable that much of SE Asia should pursue emission intensity targets rather than absolute emissions targets, and reflect this in their Nationally Determined Contributions.

Keywords: livestock, methane, emission intensity