

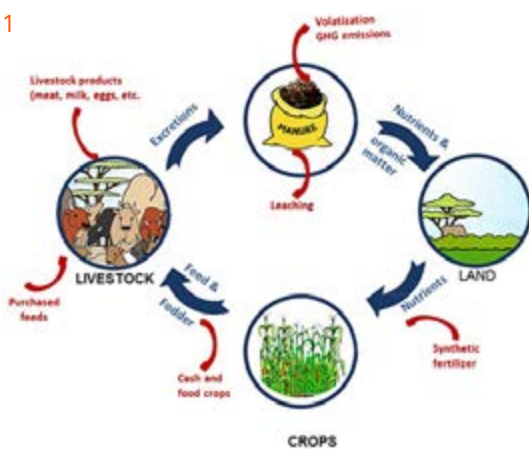
8 Right Manure Management

Caring for the environment

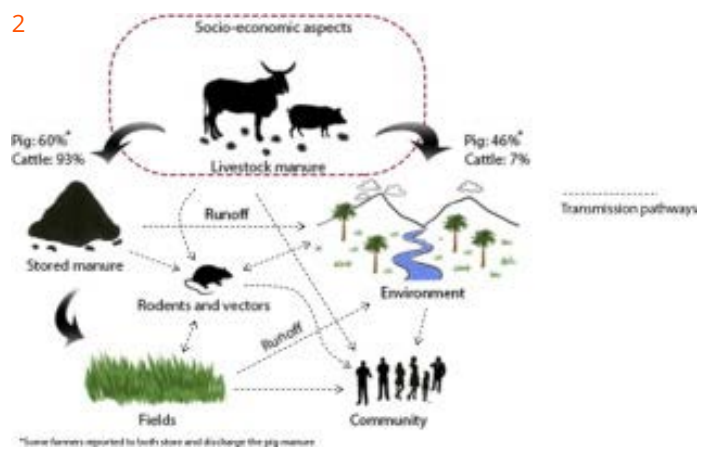
During growth, pigs convert plant protein into animal protein. The major part of the ingested protein is excreted via manure, with potential nitrogen (N) losses to the environment. Nitrous oxide (N₂O) emissions from soil application of manure are a significant contributor to the total Greenhouse Gases (GHGs) emissions from agriculture, while ammonia (NH₃) emissions contributes to the formation acid rain. In a traditional free-range farm, animals can be good for the land. They produce manure in low concentrations, which helps to fertilize crops and reduces emissions to the air.

Manure produced in intensive livestock farms has serious implications for the environment and public health. Nutrient runoff can cause serious pollution to rivers resulting in eutrophication. Aquatic plants, especially algae, grow excessively; then they die and are decomposed, robbing the water of oxygen. Fish die and water supplies are contaminated. Nutrient runoff can also contaminate groundwater reserves, increasing nitrate concentrations above safe levels. Additionally, NH₃ and N₂O are released into the air from manure. This contributes to the GHGs concentration and also increases the N load in the rain which can damage local ecosystems (acid rain).

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1 | <https://www.frontiersin.org/articles/10.3389/fsufs.2019.00029/full>

2 | <https://www.sciencedirect.com/science/article/pii/S0048969717333120>

Good manure management practices, using less intensive, free range or organic systems can benefit the environment as they produce less NH₃ and other odorous gases and as they can produce manure in a form less likely to leach into rivers and watercourses. Keeping pigs outdoors takes care of the problem of manure, which naturally distributes itself on the pasture. In such cases, phosphorus levels are kept low enough and the farm itself smells remarkably fresh.

https://www.ciwf.org.uk/media/5492194/gap_pig_book_full.pdf