

Structural rearrangements as keys towards an integral sustainable pig husbandry

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Production efficiency has been the master narrative of Dutch livestock industry for the past decades. However, it is increasingly acknowledged that this exclusive emphasis is a prime cause of a range of undesired side effects, for instance on animal welfare and ecology. This study identified four structural rearrangements in order to design an integrally sustainable pig production system that takes into account the interests of a broad set of stakeholders. The project *Porkunities* ('Pork Opportunities') conducted by Wageningen UR Livestock Research, designed systems for a sustainable pig husbandry. In its designs it strived to meet and unify the needs of the pig, the pig farmer, the planet and the consuming citizen. In the project the needs of these four stakeholders were identified and described and three interactive design rounds were held. The resulting pig husbandry designs were analysed and evaluated on realisation of the heterogeneous sets of needs. The results of the project show four recurring issues where a change in thinking is required to find sustainable solutions. These structural rearrangements seem to be crucial in realising the goal of integral sustainability, and are: 1) grant the pig the freedom to fulfil its own needs, rather than applying technique to do so for the pig; 2) make full use of the pig as food-waste converter, rather than feeding it foodstuffs that compete with human food 3) harvest minerals and energy as by-products of pig production, rather than treating these products as waste 4) connect the farm with its environment and invest in an active relation with nature, society and consumer, rather than just reducing negative effects. This study shows what the stakeholders want and need, the deeper content and implications of the structural rearrangements, the designed solutions to meet these rearrangements and the value of a different mindset in provoking the needed innovations for an integral sustainable pig production.