

SUSANE - Sustainable, sanitary and efficient management of animal manure for plant nutrition

Editor: Professor Sven G. Sommer, FAS

Lessons learned at a network, capacity and awareness building workshop

January 2007 the Small Livestock Component (ASPS, Danida) and the SUSANE-Research project co-hosted a Workshop about “Sustainable, sanitarian and efficient management of animal manure in Vietnam”. More than fifty officials from MARD (Ministry of Agriculture and Rural Development) and research institutes contributed to an eye opening event. The participants unanimously agreed that livestock production is changing rapidly and that this transition is not followed up by appropriate technologies and management of the large amounts of manure produced.

It was proposed by the chairman of the workshop, Deputy director (Ms) Tran Kim Anh (National Agricultural Extension Centre) and Director Dr. Truong Van Dung (National Institute Veterinary Research) that there is a need of providing material for informing extension service officers and employees at ministries’ about the hazards related to manure recycling and disposal. One first step to achieve this goal was the production training material.



Fishpond

The MARD institutes were encouraged to establish a network of researchers. The network could be a forum for exchange of knowledge and also for collaboration when carrying out “whole farm research”. The network should also facilitate contacts and provide research proposals to donors or to research and development programmes. In the following a brief review of the information is presented.

Background

Vietnam is one of the countries in the world with the highest rate of increase in livestock production. Further, there is a move from small scale production of livestock to medium and large scale. The larger farms are specialised in livestock production with little land for recycling and use of animal manure as a fertilizer to crops.

This specialisation in agriculture has caused an uncoupling of livestock and plant/fish production, and an increase in direct discharge of liquid manure to rivers and lakes. A practise enhanced by a change in agricultural practises, where e.g. more water is used for cleaning animal houses. Further labour is becoming sparse in agriculture and this is reducing the incentives for the relative manpower intensive manure management in Vietnam.

The information presented showed that livestock production in Vietnam is in a transition phase.

Livestock production and environmental problems

Numbers of surveys have shown that livestock manure management has not been adapted to the new production systems in this stage of transition. Odour is becoming a problem because small farmers living in villages are increasing their pig production, and neighbours who was not affected by small scale pig production is complaining over the larger farms.

The amount of manure produced and supplied to fishponds is above the nutrient need of the ponds, which is turning green and the fish is dying. The manure may not be treated appropriately and is causing spreading of diseases to human beings, the fish and livestock. Emission of gases to the atmosphere may cause eutrophication and direct discharge to rivers and lakes are a significant source of pollution.

The origin of this pollution is that the development of livestock production is not followed by development and implementation of new technologies for handling the large amounts of manure produced. In consequence, the increasing livestock production is the source of obnoxious odours, air and water pollution and also the spreading of diseases.

Regulation of livestock production

The Vietnamese government has faced the environmental problems caused by the specialisation and increase in livestock production. Zoning is one measure which regulates the distance from livestock farms to neighbours, roads, lakes, rivers etc. Further, regulations are also aiming at reducing risk of spreading diseases and at reducing pollution of the environment.

Biogas treatment of manure is considered a source of energy but it is realised that biogas production are not reducing the content of pollutants in manure. Alternatives may be treatment facilities including sedimentation, biotreatment (nitrification ↔ denitrification), sand filtering and discharge.

SUSANE Newsletter No 4, March 2007

It was considered that authorities do not have appropriate tools for controlling if the farmers comply with the regulations. Thus, in the future there may be a need for developing a new set of regulation using the experience from enhancing the present regulations and also using the results from the present studies of manure management.

Recommendation

The red line through all presentations was the mentioning of need for increasing the awareness of livestock production being a risk to the environment. This includes the risk of spreading pathogens through improper management and use of animal excreta. Thus there is a need of providing information and teaching materials needed to build awareness and disseminate knowledge about technologies and management that can reduce the problems.

To provide this information there is a need of carrying out R&D to adapt technologies to Vietnamese production systems, and adapt or develop coherent regulations adapted to Vietnamese conditions based on sustainability in agricultural production.

Immediate action proposed

Building a “simple network” with participation of core extension service organisations, research institutes, ministries and the industry may be a first step to enhance use of existing knowledge and improve collaboration. A network may be a secretariat updating lists with the relevant persons/institutes, collating information from these and disseminate the information through e-mails or a web site. The secretariat may also organise workshop, conferences, visit to study sites. Most important may be that the network through the secretariat may be the target for donors who want to implement sustainable and efficient manure management technologies in Vietnamese livestock production.

Participating institutes in Vietnam and Denmark

Ministry of Agriculture and Rural Development, National Institute of Soils and Fertilizers (NISF), Dong Ngai Commune, Tu Liem District, Hanoi, National Institute of Animal Husbandry (NIAH), Thuy Phuong, Tu Liem, Hanoi, and National Institute of Veterinary Research (NIVR), 86 Truong Chinh Road, Dong Da, Hanoi.

University of Aarhus, Faculty of Agricultural Sciences (FAS), Dept. of Agricultural Engineering, Schüttesvej 17, DK-8700 Horsens.

University of Copenhagen, Faculty of Life Sciences (FLS), Dept. of Agricultural Sciences, Thorvaldsensvej 40, DK-1871 Fr.berg C, and Dept. of Veterinary Pathobiology, Stigbøjlen 7, DK-1870 Fr.berg C.