

A Community Participatory Intervention Model To Reduce The Health Risks From Biogas Wastewater in Hanam Province, Vietnam

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INTRODUCTION

In Vietnam, livestock production has been rapidly developing, i.e. increasing in the number of animals in general, and in animal size/number of households in particular. Waste in animal livestock amounted to 85 million tons per year and 37 million tons of wastewater per year (*Vietnam rural agriculture, 2014*). A large amount of waste is directly disposed to the environment, causing environmental pollution and adverse impacts on human health.

To address this situation, biogas system have applied to treat livestock waste in commonly, in particular at the smallholder farms. However, most of smallholder farms have not yet used the biogas correctly then biogas wastewater could affect health and environment. We applied transdisciplinary and community participatory approach (called Ecohealth approach) in research to improve knowledge and practice of farmer for better operation of biogas systems and treatment of waste.

The transdisciplinary approach is likely to be adopted widely in the intervention program, particular intervention programs to change the agriculture and rural issues. Community priorities should be determined by local people. Then community problem will be solved by knowledge of scientists and practical experience of local people co-operation. It is core competency of the ecosystem approach to health.

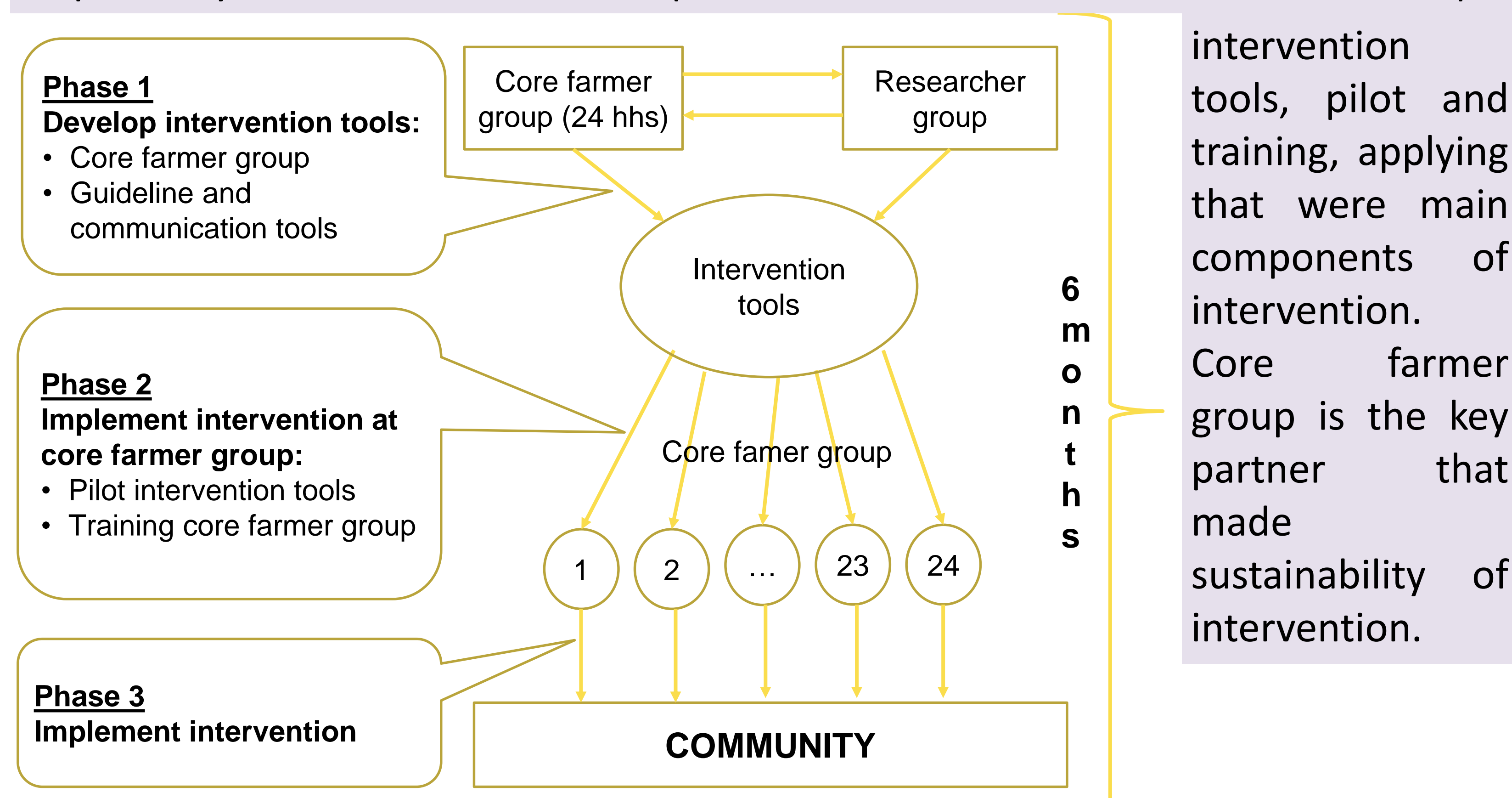
OBJECTIVES

The intervention program aimed to:

- Develop and implement a set of interventions tools by participatory of transdisciplinary sectors.
- Improved knowledge and practices of farmer for better operation of biogas systems and treatment of waste.

METHODS

Intervention studies comparing with the control group before and after was applied. The research sites were Hoang Tay and Chuyen Ngoai commune in Hanam province during 2015. In the field, farmers lived in biogas households that were invited to the research as target subjects. Total of 399 participated farmers were divided to control group and intervention group that were accounted 255 and 144, respectively. The Intervention are implemented in six months for around. Develop



RESULTS

Phase 1: Develop intervention tools

Intervention tools package were obtained that including village law (“Huong uoc”) on environmental protection, a guideline of 6-step program of pig cage cleaning, a health monitoring books for humans and animals, a information calenda.

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Poster showing proper steps in biogas process

Poster Village law



Health monitoring book

Calendar of biogas operating

Phase 2: Implement intervention at core farmer group

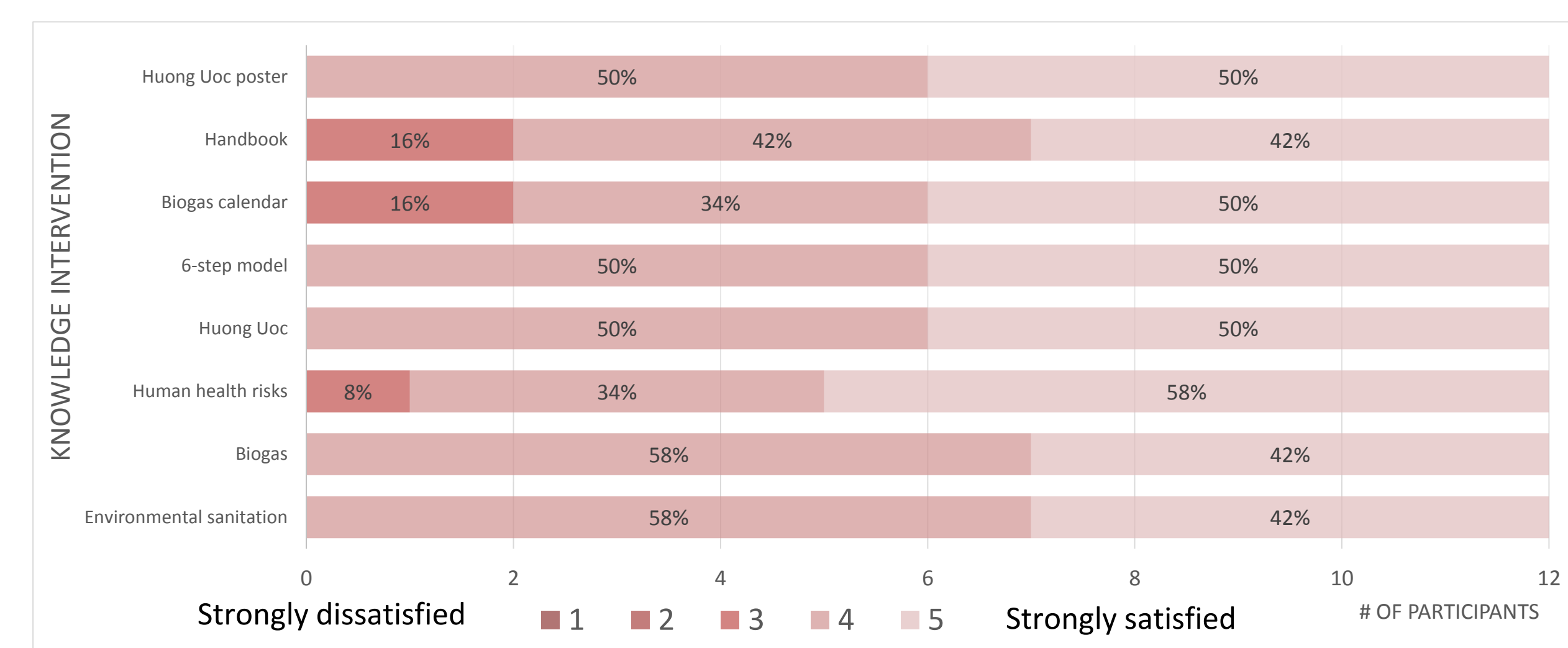


Figure 1. Satisfaction regarding knowledge and interventions within core group farmer

Phase 3: Implement intervention

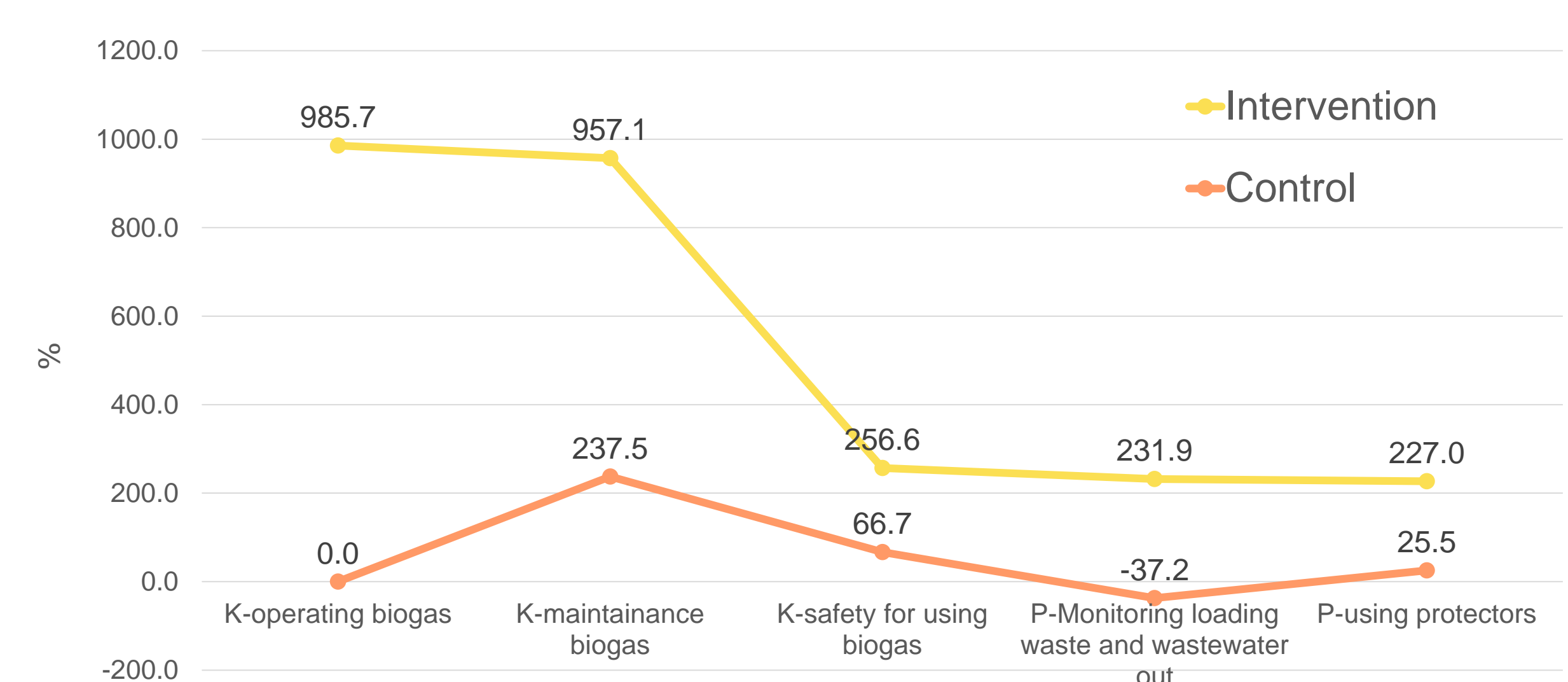


Figure 2. Evaluation for changing knowledge and practice of farmer in operating biogas by intervention

CONCLUSION

- Communication by community participatory is effective approach that made to improve properly knowledge and practice of farmer in using biogas.
- Core group farmer is important factor of community participatory approach.

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FBLI: Field Building leadership Initiative: Advancing Ecohealth in SEA