SFB 564, sub-project D2
"Efficiency of smallholder animal production in mountainous areas of North Vietnam"

Implementing On-farm Performance Testing Schemes

Pilot phase 3/2003 to 6/2003

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Implementing OPTS
Objectives of the pilot phase:

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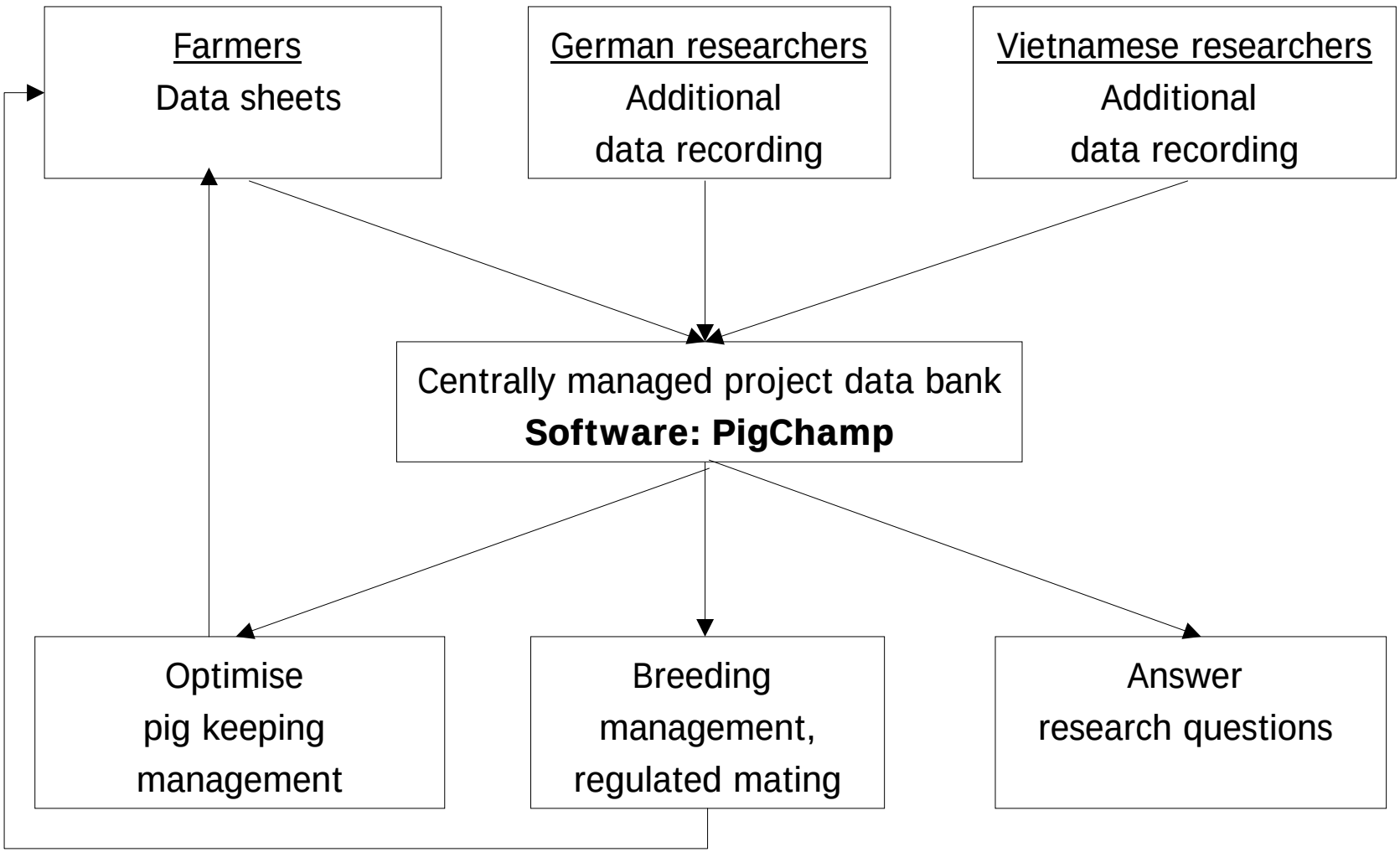
- Select appropriate parameters for on-farm performance testing, which will be used for regular herd monitoring by farmers,
- Investigate suitable on-farm research methods,
- Design and develop a data recording and management system, which combines data recording by farmers and data recording and back-checking farmers' records by researchers,
- Train farmers in computer use,
- Set up a long-term stable data flow system between farmers and researchers.

Diagram of data flow



Conducted activities
(Villages Ban Buon, Bo Duoi)

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	Project phase	1				2
Activity	**Details on conducted activities**	**March 03**	**April 03**	**May 03**	**June 03**	**July+subsequ. month**
Introduce working concept	Farmers' meetings	XXX				
Data recording	Develop data sheets	XXX	X			
	Distribute data sheets for April, first explanation		XXX			add. vill.
	Copy filled data sheets, distribute data sheets for next month			XXX	XXX	XXX +add.vill.
Feedback results	Feedback seminars			XXX		once per year
	Feedback data sheets					bimonthly
Optimisation	Data sheets, data collection system			X	XXX	
Data management	PC course for farmers (Ban Buon, Ban Bo)		XXX	XXX	X	10/03+11/03
	Set up and management of project data bank			XX	XXX	XXX continuously

OPTS: Parameters, research methods

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Fields of data collection	Who collects data?
Acquisition of new pigs	• Farmers (data sheets, regular data collection) • Researchers (back-checking data sheets)
Matings	
Reproduction of sows	
Preventive treatment (vaccination, deworming)	
Disease occurrence	
Losses/culling	
Off-take (selling, slaughter, gifts)	
Feedstuff purchase	
Feeding on test day	• Researchers (measurements, observations during on-farm visits)
Buying of veterinary products	
Individual identification, assessment of condition of pigs	
Body weight, (body measures) of pigs	

for details and parameters of data collection see research proposal D2

Data sheets for farmers

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- **In Vietnamese**

- **Four topics**
  - Reproduction (heat, mating, birth, litters size, piglet mortality)
  - Off-take (sell, slaughter, gifts), purchase of new animals
  - Disease occurrence, disease prevention + treatment, losses
  - Buying feedstuff (type, amount, prices)

- **1 cover sheet (checklist), 4 data sheets (data tables)**

Hãy điền các số liệu về con lợn nái của ông (bà) nếu nó được phối giống:

Ngày phối giống?	Con nái nào?	Con lợn đực nào?	Giá cho mỗi lần phối
		Giống của con đực phối:	đồng
		Con đực phối ở bản nào:	
		Tên của người nuôi con đực giống:	
		Giống của con đực phối:	đồng
		Con đực phối ở bản nào:	
		Tên của người nuôi con đực giống:	

Data recording: Example of outcome, possible application of results

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Feeding ration for gilts on test day, village: Ban Buon

	Minimum	Maximum	Average	Sample size
Energy (MJ/sow/day)	12.3	39.8	21.8	13
Crude protein (g/sow/day)	159	451	265	13
Feed costs (VND/sow/day)	1504	5924	3186	13

Feeding ration for pregnant sows (> 1 litter), on test day, village: Ban Buon

	Minimum	Maximum	Average	Sample size
Energy (MJ/sow/day)	7.4	64.2	31.1	18
Crude protein (g/sow/day)	113	691	331	18
Feed costs (VND/sow/day)	936	9652	4240	18

- identify feeding below requirements
- determine feed costs
- give examples for more suitable rations

Feedback seminars +
Individual trouble shooting

Data collection by farmers: Success and problems

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	Ban Buon / Son La	Bo Duoi / Mai Son
Number of participating households	30	28
% attending preparatory meeting in March	87%	93%
% illiterate respondents*	13%	33%
% illiterate families**	0%	15%

* respondent at explanatory "session" (April) illiterate, at least one other family member literate, ** all family members illiterate

Data sheet not filled in (% of hh)	6.7%		25.9%	
% events missing in data sheets*	33.0	n = 276	30.0	n = 170
% of dates missing (e.g. mating date)**	21.8	n = 179	11.4	n = 105
% of numbers missing (e.g. weight of pigs sold, n piglets born)**	16.5	n = 266	6.6	n = 197
% of specifications missing (e.g. which sow, which feed)**	17.9	n = 336	8.3	n = 192
% of reasons missing (e.g. reason of death)**	18.2	n = 11	0.0	n = 2

* in % of total events occurred in the data recording period

** in % of total dates, numbers, etc.

Data collection by farmers: Success, shortcomings, recommendations for improvement (cont.)

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Success	• Performance data collection by farmers successfully implemented
Shortcomings	• Completeness and accuracy of data collected by farmers (Illiteracy, missing/incomplete data) • Detach from compensation based data collection system (farmers not aware of short term/long term benefits from OPTS and breeding program)
Recommen-dations	• Continue with successful approach • Optimise data sheets (consider discussion with farmers during feedback seminars) • Further develop data collection by farmers (e.g. measuring feed) • Reduce payment of compensations • Focus on benefits for farmers (short term: trouble shooting, training, PC course, improved management long term: breeding program, marketing program)

Recommendations for improving data recording and management (cont.)

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Data recording by researchers

- Find adequate identification system for pigs
  At the moment: pig > ear cuts > code > pig ID
  Replace by ear tag based system
- Monthly or bi-monthly visits?
- Integration of one permanently working Vietnamese field assistant and a long-term researcher from Germany necessary
- Further optimise complementarity between researchers from Vietnam and Germany

Data management system, data flow

- Selection of suitable software (easy to manage, available analytic functions, costs)
- Data entry by farmers or by employee?
- Institutionalise feedback of results and of missing values to farmers, develop feedback sheets
- Institutionalise training activities

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