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Technical Report

2020 ACIAR Launch Workshop

Researching The Sustainable Traceability Of Ruminant Livestock
Production In Vietnam

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2020 ACIAR Launch Workshop

Researching The Sustainable Traceability Of Ruminant Livestock Production In Vietnam

Technical Report

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Definition of Keywords

Keyword	Definition
Animal Welfare	The state of the **animal**; the treatment that an **animal** receives is covered by other terms such as animal care, animal husbandry, and humane treatment
Communication	The exchanging of information
Cultural awareness	Recognition of the nuances of one's own and other cultures
Education	The process of receiving or giving systematic instruction, especially at a school or university
Funding	Money provided, especially by an organization or government, for a particular purpose
Innovative technology	New or improved product or process whose **technological** characteristics are significantly different from before
Legislation	Laws, considered collectively
Sociology	The study of the development, structure, and functioning of human society
UQ	The University of Queensland
VNUA	Vietnam National University of Agriculture

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Introduction

The University of Queensland (UQ) and the Vietnam National University of Agriculture (VNUA) co-hosted a two-day online workshop and consultation (21-22 January 2021) involving researchers, educators, students, producer and industry stakeholders. The topic of the workshop was "Sustainable Traceability of Livestock Production in Vietnam". This workshop focussed on the theme of Animal Welfare to improve sustainable livestock productivity small holder production systems (e.g. sheep and cattle) in Vietnam. The forum was attended by 51 participants and 15 organisations from Vietnam, Australia and the UK. There were six presentations from both Universities, and three Zoom break-out sessions, as part of the workshop. The Zoom break-out sessions (20 mins of discussion) were conducted by allocating participants in 5 break-out rooms which comprised of Professors from The University of Queensland and the VNUA, students and industry representatives. Prior to the workshop, attendees were sent a pre-workshop questionnaire in order to shape the discussions of the workshop, and after the conclusion of the workshop they were provided with a feedback form.

Day 1

Day 1 of the launch workshop was opened with an opening address by Professor Neal Menzies (Head of School), School of Agriculture and Food Sciences, the UQ and Associate Professor Nguyen Thi Minh Hien, Dean of the Faculty of Economics and Rural Development (FERD), VNUA. Day 1 included two keynote speakers from The University of Queensland. Professor Alan Tilbrook opened the morning of Day 1 with a keynote on the economic and social perspectives of the livestock industry in Australia and discussed the economic benefits of focussing on Animal Welfare and consumer and community support are very important for the sector into the future. In relation to Alan's keynote presentation, the first breakout session focussed on the theme of animal welfare challenges in Vietnam livestock production systems and to determine innovative solutions to improve animal welfare in Vietnam. Each group was given an opportunity to present their main points which helped to further engage the participants in the workshop. Despite the different compositions of the break-out rooms, the main points were consistent across every group. The conclusion from those conversations provided two reasons why animal welfare has not been adopted already.

Firstly, animal welfare is a relatively new concept in Vietnam, and so people do not know what it is, how to apply it and why. Secondly animal welfare may not be adopted as easily due to the potential costs that may arise by improving the conditions the animals are in. The participants concluded that the farming system needs changes, and the standard farm design must be improved in order to better fit the needs of the animals. For that to happen new laws are needed, as well as awareness programs in order to educate everyone involved in the value chain, from the farmers to the consumers, on the subject of animal welfare. Innovative technology could potentially be used for education and for monitoring the animals.

After a break, Associate Professor John Gaughan continued with an introduction on how the different climates can affect livestock production, since animals are often exposed to extreme temperatures or climatic events. After the presentation, the participants were again placed in break-out rooms and given a task that would further allow them to practice what they learned during Day 1 of the workshop. They were tasked with choosing a production system and designing a basic research concept that would improve animal welfare for that system. A representative of each group then presented the main point that were brought up during the discussion. Then, Day 1 was concluded after a few closing remarks.

Day 2

Day 2 commenced with a presentation from Dr Edward Narayan, UQ on how animal welfare and the livestock performance can be assessed by using science along with modern technological advancements. It was followed by three presentations from VNUA, the first by Associate Professor Nguyen Thi Duong Nga, VNUA, on what are the main drivers for the value chain development of beef smallholders in Vietnam based on case studies in low-land and upland areas. This was then followed by Dr Nguyen Huu Nhuan, Faculty of Economics and Rural Development, VNUA, titled "A holistic impact assessment framework for AR4D in the context of the Northwest Highlands of Vietnam", which was then followed by a talk from Dr Duong Van Nhiem, VNUA, on the education of animal welfare in Vietnamese Universities. The participants were then placed in the final break-out session with the goal to discuss what potential risks could be encountered when setting up an international research project in Vietnam and how to mitigate those problems. Representatives of each group then presented their main points, which were similar across all groups. The conclusion from this

last break out session is that apart from education and awareness, sociology should be used extensively for any future international research projects setup in Vietnam in order to achieve the best possible collaboration between everyone involved. Finally, after a few closing remarks the workshop was concluded.

Conclusion

Overall, the workshop was very informative and educational for everyone involved. The general conclusion is that the next step for the adoption of animal welfare in Vietnam is to organise education and training programs for everyone involved in the animal production industry as well as the costumers.

Figure 1: Important keywords that came up during the discussions.

Appendix A
Pre-workshop questionnaire

A-1   Which animal production system do you closely work on?

Which animal production system do you closely work on?

More Details

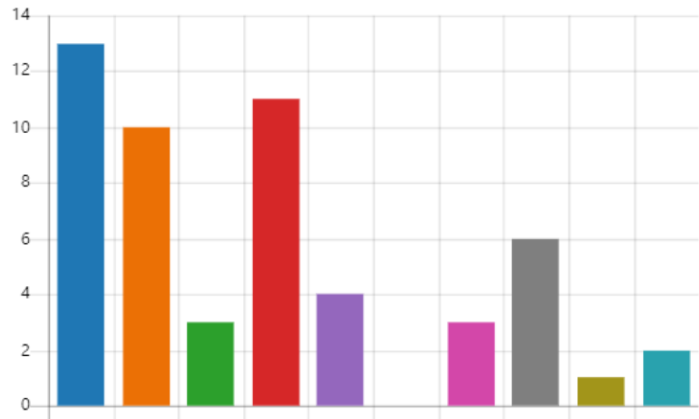|		
●	Cattle	18
●	Goats	7
●	Sheep	4
●	Other	7

A-2   What are the key animal welfare indicators that you or your team use in your welfare checks? Select your 3 main ones.

- ➢ Mobility (general aspects of animal movement and balance e.g. not limping or poor swimming)
- ➢ Interaction with other animals in the cage/tank/pen
- ➢ Interaction with handlers
- ➢ Reaction to food/water (particularly in feeding times)
- ➢ Cognitive perceptions assessed by facial expressions or fin posture
- ➢ Cognitive perceptions assessed by stimuli to stimuli (e.g. your call, hand, net)
- ➢ Cognitive assessment assessed by attention or response to carer
- ➢ Stereotypic behaviour
- ➢ Aggression

3. What are the key animal welfare indicators that you or your team use in your welfare checks? Select your 3 main ones.

More Details

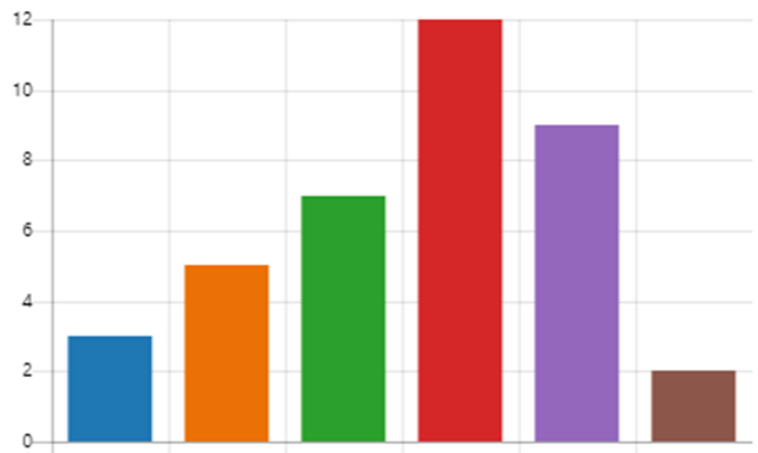|	
● Mobility (general aspects of a...	13
● Interaction with other animals ...	10
● Interaction with handlers	3
● Reaction to food/water (partic...	11
● Cognitive perceptions assesse...	4
● Cognitive perceptions assesse...	0
● Congitive assessment assesse...	3
● Stereotypic behaviour	6
● Aggression	1
● Other	2

A-3 When would you or your team generally do these general welfare checks?

➢ Specifically designed daily welfare check times
➢ At feeding times
➢ At cage/pen/tank changing and/or watering times or cleaning
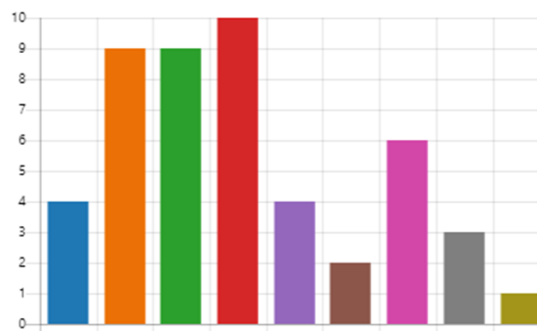➢ When a study is planned
➢ At specific times as part of a study

● Specifically designed daily wel...	3
● At feeding times	5
● At cage/pen/tank changing an...	7
● When a study is planned	12
● At specific times as part of a s...	9
● Other	2

A-4   How would you describe these general behaviour assessments? Select all that apply.
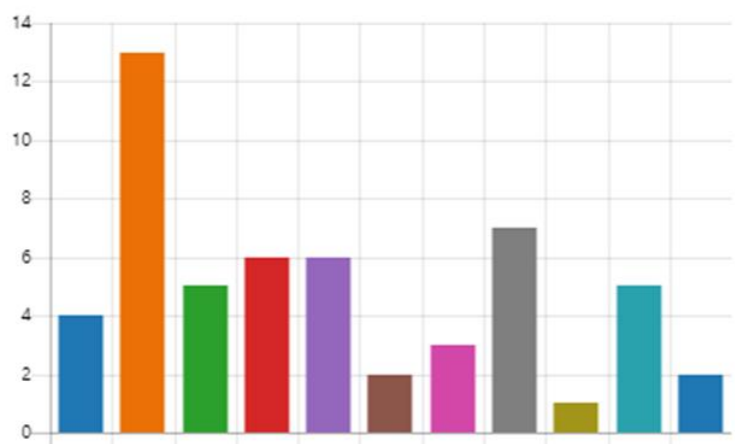
- ➢ Easy to be done as planned
- ➢ Time consuming
- ➢ Subjective - Very dependant of assessor/handlers
- ➢ Challenging - depending on the strains/species
- ➢ Work well for all animals (stock and experimental)
- ➢ Easier for stock animals
- ➢ Complex for experimental animals
- ➢ Time and focus very dependable of workload
- ➢ Time and focus variable on weekdays vs weekend

● Easy to be done as planned	4
● Time consuming	9
● Subjective - Very dependant o...	9
● Challenging - depending on t...	10
● Work well for all animals (stoc...	4
● Easier for stock animals	2
● Complex for experimental ani...	6
● Time and focus very dependa...	3
● Time and focus variable on we...	1

A-5   What would be the key priorities that you would consider in these tests? Select your 3 main ones.

● Motivation of the animals to p...	4
● Training experience of the res...	13
● Need for the animal to be sep...	5
● Repeatability (test can be repe...	6
● Time efficacy (e.g. also related...	6
● Interaction with other test (ris...	2
● Capabilities for automation of ...	3
● Housing /setting conditions (r...	7
● Throughput (in regard to the ...	1
● Costs (regarding equipment, I...	5
● Results evaluation and interpr...	2

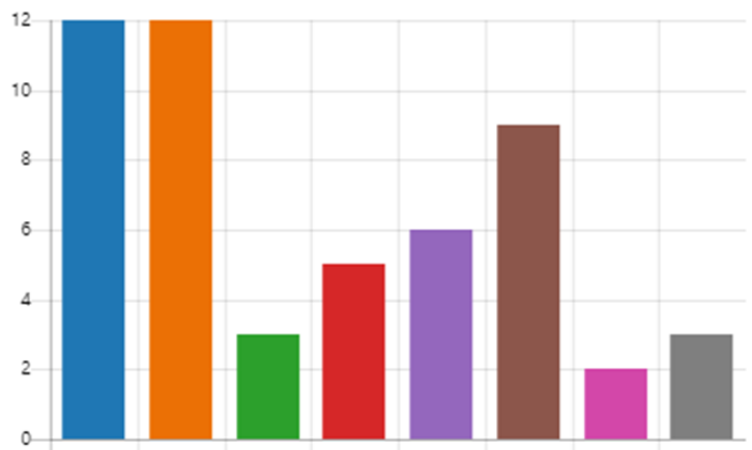**A-6**   **Do you have access to/use an automated animal welfare system?**

● Yes	0
● No	20

A-7   **If "NO" - Do you use published or industry standard welfare indicators such as condition scoring?**

● Yes	6
● No	13
● I answered "Yes" above	1

A-8   **What would you consider relevant challenges of animal welfare assessment in your animals? Choose all that apply.**

● Complexity of running the sys...	12
● Cost (equipment and setting u...	12
● Large amount of data collecte...	3
● Poor versatility of data analysi...	5
● Technical and analysis support...	6
● Lack of substantial experiment...	9
● Limited flexibility of adapting ...	2
● Other	3

A-9 In what ways would you like to collaborate with the University of Queensland Research team to boost Animal Welfare capability on your farm/production system?

ID	Name	Responses

Animal welfare research and animal welfare assessment training

Raise producers and value chain actors awareness on animal welfare and change their behaviour

Interested in potential collaboration with UQ and ACIAR projects focused on agroforestry and how this system can improve animal welfare

Setting up institutional animal ethics committee and animal welfare standards under local conditions

Through discussion and doing further research collaboration with the university in order to address these issues

Training and sharing experience

Collaborate with the University of Queensland Research team in some field, such as holding an animal welfare seminar to raise public awareness of animal welfare, or conducting research on developing growth and productivity output by applying animal welfare system

Education/Training and developing guidelines and standards on animal welfare under the local (country) conditions.

Research collaboration on boosting animal welfare capability for small-holders in beef cattle value chain

Its a great opportunity to collaborate with the University of Queensland Research team about animal welfare. The UQ team can show the Vietnamese team what they already have with Animal welfare technology, then we can discuss how to fix these with our current condition

Cooperate with Queensland University to implement projects related to animal welfare and research the sustainable traceability of ruminant livestock production in Vietnam.

Raise the awareness of farmers in animal welfare and other stakeholders in the chain by educational workshops and modelling

ID	Name	Responses

Benefit from greater visibility of the livestock they are investigating, including more frequent contact with either the subjects themselves, or those in their care. All too often in research it is easy to lose sight of the animal behind the study, and having that awareness of the living organisms that we are investigating may add greater depth and gravitas to the work we do.

Gain a greater understanding about this topic, listen to the discussions and gain more experience in this field. I would like to be able to practically incorporate improved animal welfare practices and be able to converse with other people on this topic from a strong understanding of animal welfare.

Through shared honour's students, adding a welfare aspect to our current research activities (monthly goat weighing and household surveys)

Appendix B
Post-workshop Survey

B-1   What was your motivation for attending this workshop?

Responses

I am working in meat value chain and animal welfare is an interesting topic, related to the value chain performance as well

To get more involved in professional networks

Hoping to become part of a collaborative research team between our two countries

Currently working on a livestock project in Laos and Vietnam and wanted to learn more about traceability

I want to learn and discover new knowledge from this workshop, it is very useful for contributing better to my current project ACIAR about beef cattle. At the same time, it is a chance to find some ways for me to improve the problem difficulty of livestock in Northwest Vietnam

I would like to expand my knowledge in the field

I wanted to experience and be involved in real livestock industry issues and discussion. The international joint hosting with the Vietnam National University of Agriculture especially interested me as I wanted to learn more about Vietnam's agricultural sector. As a student majoring in animal science, this workshop was highly relevant to me.

I would like to gain my knowledge of animal welfare

B-2   What aspects of the workshop were the most valuable for you? And why?

Responses

Relationship between Animal welfare and animal production performance

Organization. It was well organized.

Responses

I received a brief snapshot of what animal production systems in Vietnam look like and what some of their animal production and welfare challenges are.

Speaking directly to other researchers on ACIAR projects

Animal welfare and sustainable production are aspects that are very valuable to me because where I live in the highlands of Northwest Vietnam farmers and small farms do not really care about animal welfare and especially not focused on sustainable beef production, so this is how I approached this knowledge to find ways to improve animal welfare for farmers and sustainable production of beef cattle in the mountains Northwest Vietnam in the future.

I gained new knowledge of animal welfare and also knowledge of agricultural product value chain in Vietnam.

I really enjoyed hearing from students and academics from Vietnam share about their experiences with research and livestock in Vietnam. It was especially interesting discussing and collaborating together after the keynote presentations around the topic questions during the breakout rooms.

The Influence of Climatic Variability on Animal Production Animal welfare education in Vietnam universities. A holistic impact assessment framework for AR4D in the context of the Northwest Highlands of Vietnam

B-3   How has this workshop changed your thinking about animal welfare, climate change and sustainability?

Responses

Treating animals well could improve your farm in both economic and social aspect

More and more important aspects need to be considered in livestock production.

It has made me more aware of the challenges faced in Vietnam, for example I did not know that cold/snow was a factor.

I realise that it actually is an issue on the radar of researchers in development

- Animal welfare: This workshop shows me obviously about animal welfare, I know animal welfare is very important for the breeder as

Responses

well as for livestock in Vietnam. So, the Government should pay
more attention to animal welfare, especially they need to create a
page about animal welfare in society to show everyone and teach it.
If we do very good about animal welfare we will have a high yield of
beef as well as sustainable production.
- Climate change: It is obvious climate change affects a lot of
livestock in Vietnam in particular and around the world in general,
therefore we have to find ways to improve this problem.
- Sustainability: It is very important for livestock in Vietnam, if we do
good in animal welfare and climate change, sustainability will be
better.

I understand more about animal welfare and its impact on
productivity as well as climate change.

I found the workshop a helpful learning experience. My
understanding of animal welfare has improved. Being able to listen
to firsthand experiences of research in Vietnam and understand
more on how its livestock sector operates was very interesting as
well. In addition, I did not know very much about livestock
traceability but the student presentations in the original program
timetable motivated me to research and read more about what
livestock traceability is, its importance to the industry, benefits to
producers and the technology, current and emerging used in
livestock traceability systems.

I have some changes in my thinking like improving the shelters ,
quality and quantity of animal production and food early through
training and supporting project as well as raising awareness of
customer, retail and farmer-animal welfare

B-4　In what ways would you like to collaborate with the University of Queensland Research team to boost Animal Welfare capability on your farm/production system?

Responses

Education & training for involved people.

n/a

I would like to discuss the possibility of designing a small research
project to assess some aspect of animal welfare in our project.
could be a collaboration between UNE and UQ through an
honour's or master's student

Responses

I want to collaborate with the University of Queensland Research team conducting a project about researching the Sustainable Traceability of Ruminant Livestock Production in Vietnam to improve Animal Welfare capability in my production system in the future. Especially to improve livestock for farmers in Northwest Vietnam

We can join to create a standard of animal welfare in Vietnam. And we can join as a research team to raise the awareness of farmers in animal welfare as well as evaluate the impact of applying animal welfare standard in productivity and agricultural income of farmers, especially small-farmers

Listening to more information about animal welfare has helped me to think and consider animal welfare more. If the University of Queensland Research team could collaborate with me in developing a facial recognition system which recognises individual chickens I would be interested.

We would like to collaborate with the University of Queensland Research team to boost Animal Welfare capability on your farm/production system through training and support on raising the awareness of animal welfare and Sustainable Production in A Challenging Global Space

Appendix C
Workshop pictures

Figure 2: ACIAR Vietnam Launch Workshop team members, L-R (Mr Nguyen Ngoc Bang, Georgina Hantzopoulou, Harsh Pahuja, Dr Edward Narayan, The University of Queensland.
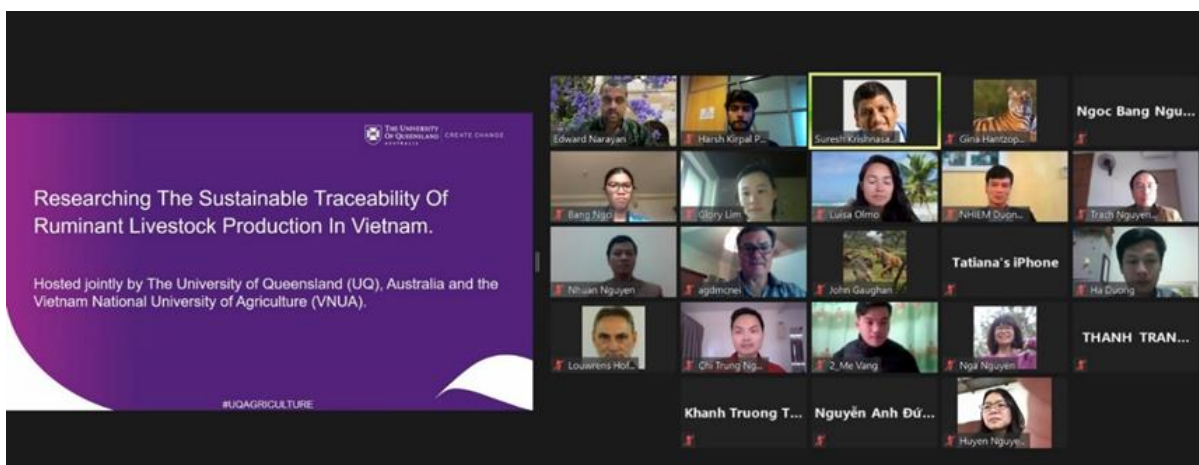

Figure 3: Zoom screenshot showing the participants of the 2020 ACIAR Vietnam Launch Workshop.

Link to Educational Resources

Zoom recordings for the opening ceremony, key note seminars and research presentations can be accessed via this public link below. Please share responsibly.

https://cloudstor.aarnet.edu.au/plus/s/9BKOAoN1KZCMl1w