ONE HEALTH CASES

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Jigjiga University One Health Initiative

This case illustrates the transdisciplinary process of co-producing new knowledge between academic and non-academic actors. Prioritized adapted health interventions targeting mobile pastoralist populations were developed, piloted and implemented in Ethiopian Somali Regional State.

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Origin:

Cover image: **Shared water point in Ethiopian Somali Regional State (courtesy of J Zinsstag)**

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Summary

A partnership between Jigjiga University (JJU), the Armauer Hansen Research Institute and the Swiss Tropical and Public Health Institute, One Health (OH) established the Jigjiga University One Health Initiative (JOHI) in Ethiopian Somali Regional State. The aim of JOHI is to establish health research, teaching and development capacity at JJU leading to innovative integrated health systems to improve the health and wellbeing of pastoralist communities. The stakeholders include communities, local decision makers and academic partners. This case study reviews their experiences through the transdisciplinary process of the first phase of the project. We started with the challenge of how to find out what to do, identifying priorities together with all actors, and framing and setting up the project. From the agreed upon goals, research questions were formulated and discussed with the participants. Ideas emerged on interventions, which were converted into action plans, and again scrutinized by the actors and project committees. Field projects were implemented and research results were shared with stakeholders to inform and develop the activities for the second project phase. The repeated dialogue with stakeholders, including the communities, ensured that the developed interventions are feasible for service providers and acceptable to the target population. We conclude that such iterative transdisciplinary research projects have a huge advantage over conventional scientist-driven research, leading to more rapid transfer of research findings into policy and practice.

What is the incremental value that makes this a One Health case?

This case illustrates the transdisciplinary process of co-producing new knowledge between academic and non-academic actors. Prioritized adapted health interventions targeting mobile pastoralist populations were developed, piloted and implemented in Ethiopian Somali Regional State.

Learning outcomes

- A transdisciplinary participatory approach is feasible in pastoralist communities of Ethiopian Somali Regional State, but there are challenges
- Co-production of knowledge occurred as prioritized adapted health interventions were developed and pilot tested
- Implementation and scale-up requires continued resource allocation and time

Background/Context

In Ethiopia, pastoralist communities make up one tenth of the population, with the majority located in Ethiopian Somali Regional State (ESRS), where they comprise 85% of the population. This rural and largely remote area in the eastern part of the country is one of the poorest regions of the country. Rural areas support 40% of the livestock population, so they are economically important. However, unsafe and scarce water supply, lack of sanitation, food insecurity, rangeland degradation and poverty are typical for much of the population in these areas.

Mobile pastoralists have very little access to health care, and their health status is not known. This is because they live in close interaction with their livestock, perpetually searching for pasture and water across remote areas. In contrast, existing health care is only provided in a static way. To improve their living conditions, pastoralists urgently need access to health services tailored to their needs and the available resources. Integrated approaches, serving human and animal health, have proven to be particularly adapted to mobile pastoralists (Schelling et al., 2005; Schelling et al., 2007; Montavon et al., 2013) and have led to a theory of integrated health approaches called “One Health” (Zinsstag, 2020).

In a partnership between Jigjiga University (JJU), the Armauer Hansen Research Institute (AHRI) and the Swiss Tropical and Public Health Institute (Swiss TPH), One Health (OH) teaching and research capacity is developed through the Jigjiga University One Health Initiative (JOHI), funded by the Swiss Agency for Development and Cooperation. The aim of JOHI is to establish health research, teaching and development capacity at JJU leading to innovative integrated health systems to improve the health and wellbeing of pastoralist communities in the ESRS over 12 years in two phases.

Transdisciplinary Process

The overall objectives were decided between the academic partners of JJU, AHRI and Swiss TPH, but we did not know about the priorities and expectations of the communities and authorities at the outset.

Throughout, JOHI followed an iterative participatory stakeholder process. Periodically, communities, authorities, health professionals, and scientists met to discuss the project together in different locations in Jigjiga or at the study sites. We held workshops as plenary sessions with all participants, followed by focus group discussions and field visits with informal group discussions in health centers or pastoralist camps. Because most participants were not fluent in English, the participants used the Somali language

Fig. 1. Mobile pastoralists in Ethiopian Somali Regional State utilize shared water points for their animals and to collect their drinking water. (courtesy of J. Zinsstag)

and translated summaries into English. We documented results of discussions on flip charts or notes and compiled them into reports.

During the inception phase of the project, a two-day stakeholder workshop in Jigjiga brought together representatives of communities, human and animal health authorities, and the research team. We assumed that each actor had his or her own knowledge of the system and priorities and interests for research and interventions. We used open unguided questions like 'What are the most important issues for your livestock' to elicit spontaneous comments. From this list, every participant could rank them according to their priorities. Different actors raised issues like access to livestock markets or safe drinking water alongside issues of healthcare and lacking available drugs. The priorities of the project were identified together by the main beneficiaries, service providers, and scientists. Research priorities were developed during stakeholder meetings in Jigjiga and through dialogue between the research partners following the guidelines of KFPE (Swiss Commission for Research Partnership with Developing Countries, 2001; Swiss Commission for Research Partnerships with Developing Countries, 2012).

After an initial training phase at the University of Basel, the students developed the research protocols depending on the project goals and their own interests. The students focused on the nutritional status of children, the frequency of maternal healthcare use, the prevalence of diseases transmissible between animals and humans and the rangeland characteristics. The students' supervisors subsequently visited the field research sites and held conversations with pastoralists and service providers.

In a further stakeholder meeting, the students presented their first research results to the communities and authorities, who added insights based on their own experiences. A second group of students was subsequently trained at the University of Basel and chose complementary topics like drinking water quality, integrated surveillance of human and animal diseases, and assessment of rangeland quality by the pastoralists. After the end of their field research, the students again presented their results to the communities and authorities and proposed interventions which could be tested at small scale.

In this way, adaptation of tuberculosis treatment for mobile pastoralists, use of solar disinfection and water filtration to improve provision of drinking water, and a mobile phone based human and animal disease surveillance and response system were identified as the interventions in which the communities and authorities were most interested and willing to participate. At this stage of the project, the communities and service providers co-produced transformational knowledge on how to specifically implement these interventions in a way adapted to their culture and societal practices. These context specific adaptations of interventions could never have been achieved by academic scientists working in university offices.

Month	Year	Activity
September	2014	Initial workshop with University of Jigjiga and the Swiss Agency for Development and Cooperation in Jigjiga; joint Decisions on the objectives of the project
March	2015	Inception phase of the project; transdisciplinary stakeholder meeting with communities, authorities, and scientists in Jigjiga; prioritisation of research and development activities
Sep-Dec	2015	Training of first students in Basel
Jan-Aug		Multidisciplinary and Disciplinary research in Adadle woreda on nutrition, animal health, mother and child health, and rangeland management
Sep-Dec	2016	Training of students in Basel
Jan-Dec	2017	Multi- and Disciplinary research in Adadle woreda on water and sanitation, integrated disease surveillance, mother and child health, rangeland management, and animal health
March	2018	Transdisciplinary stakeholder meeting in Gode to plan interventions on tuberculosis control, water and sanitation, and integrated disease surveillance
May	2018	Transdisciplinary stakeholder meeting in Jigjiga to validate the intervention studies on on tuberculosis control, water and sanitation, and integrated disease surveillance
August	2018	Start of interdisciplinary and multidisciplinary intervention studies; civil unrest slowing down research and development activities
Sep-Dec	2018	Training in Basel
Jan-Jun	2019	Inter- and multidisciplinary interventions in Adadle woreda
June	2019	Transdisciplinary stakeholder workshop in Gode
June	2019	Focus group discussions and transdisciplinary stakeholder workshop in Gode; planning of phase 2 of the project
November	2019	Interdisciplinary implementation of integrated surveillance and response system, tuberculosis control, water, and sanitation

Fig. 2. Timeline of stakeholder workshops

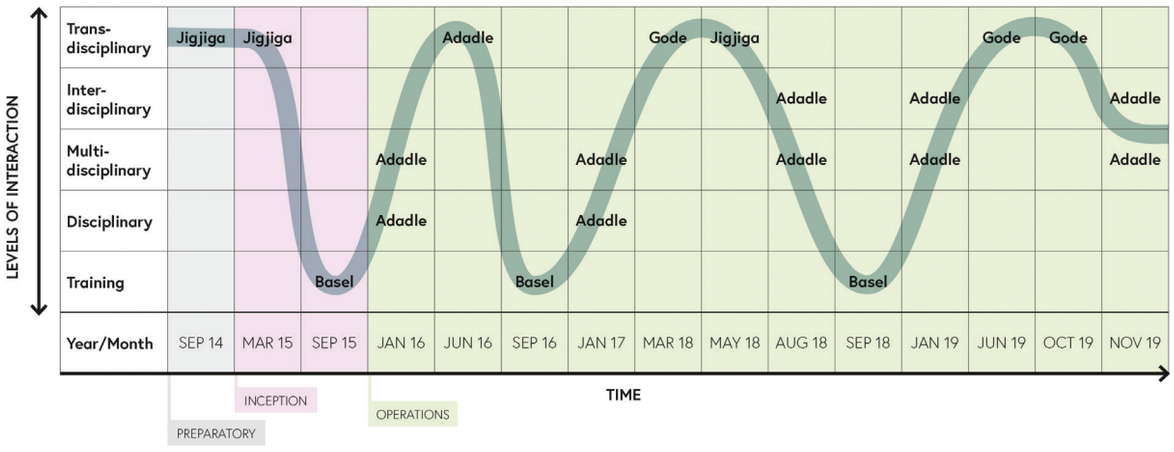

Fig. 3. Timeline of transdisciplinary process

Project Impact

Knowledge about the complex human-environment system of mobile pastoralists was gained from the different research projects implemented in phase 1 of JOHI. Pastoralists suffer from high levels of childhood malnutrition, and mothers lack knowledge on how to provide balanced nutrition for their children. Children suffer from a high frequency of diarrhoea and intestinal parasites (Osman et al., 2020). Very few women use antenatal care and births are rarely attended by a professional. Women depend on their husband's consent to use such services. When male partners support women in their healthcare decisions, the women utilize professional health services more often. Serological studies on humans and animals show that Q-fever and Rift Valley Fever are present in the study area and likely transmitted between livestock and humans, while brucellosis seems to be not much of a problem (Ibrahim et al., 2021). Pastoralists have almost no access to tuberculosis treatment because of their mobile lifestyle (Getnet et al., 2019a; Getnet et al., 2019b; Nooh et al., 2019; Getnet et al., 2021). They have their own classification systems for soil types and very detailed knowledge on where the best fodder grows. Engaging and empowering village local leaders for disease surveillance using mobile technologies appears to improve early detection and response to human and animal health events. Intersectoral collaboration and capacity to provide a response to surveillance are crucial elements for sustained success (Osman et al., 2021). The study area experienced two severe droughts, causing loss of animals and rampant malnutrition in children, during the first four years of the project. Certainly, a major impact of phase 1 of JOHI is that communities and authorities successfully established periodic exchanges.

Video 1. Developing a One Health initiative in Somali Regional State (bitly link).

Project Outlook

Although interventions in humans and animal health started in phase 1, it is still early in the process to assess their effectiveness. The human and animal health systems remain weak and fragile. Their strengthening is a priority, but also goes beyond the means of the project. Communities are willing to mobilise their own resources for emergency services, but continuous dialogue is needed to adapt existing policies and their implementation for better healthcare for humans and animals. Requests for better livestock markets and infrastructure for safe and clean slaughtering of animals and selling of meat came up as important outcomes of the participatory processes. These show that the stakeholders have their own priorities, to which JOHI will contribute in phase 2 (2021-2025) of the project.

JOHI develops policy briefs to promote adaptations of existing public and animal health policies to pastoralist settings in the Somali Region. While the project focuses on building research capacity, it will need to keep some reserve funding to intervene during future drought periods and specifically address drought resilience.

Towards the end of phase 1, JOHI underwent a peer evaluation process involving participants from the donor organization, the partners, and an independent consultant. The evaluation team participated in a stakeholder workshop and interviewed any actor at its own discretion. The evaluation showed that JOHI created research capacity at Jigjiga University and also strongly engaged with the target population of the project. The evaluation highlighted that at the level of the regional government stakeholders, rapid turnover of representatives weakened institutional memory and slowed down the policy dialogue.

Conclusions

A core element of JOHI is the repeated dialogue with its stakeholders and the target population of the project. JOHI is not a research project with pre-determined scientific aims and objectives but is flexible and adaptive to the perceptions and priorities of all actors. JOHI oscillates between generation of systems knowledge by multi- and interdisciplinary research and exposure to representatives of the target population and service providers to co-create transformational knowledge, which is then used to develop interventions that are feasible for the service providers and acceptable to the target population. We conclude that such iterative transdisciplinary research projects have a huge advantage over conventional scientist-driven research, leading to more rapid transfer of research findings into policy and practice.

Group Discussion Questions

1. Who might be important stakeholders involved in a transdisciplinary participatory approach? How do you envision the roles each group might play?
2. What were some of the challenges encountered during the JOHI project transdisciplinary process? How might you have addressed them differently?
3. What is meant by ‘co-production of knowledge’? Discuss the ethical aspects surrounding this process.
4. The timeline for phase 1 of this project included pilot testing selected interventions. What challenges do you see to implement and scale up promising adapted interventions?

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Further Reading

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Funding agency project summary is available here

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