



BRIDGING THE GAP

BETWEEN HPAI "AWARENESS" AND PRACTICE IN CAMBODIA

Recommendations from an Anthropological Participatory Assessment

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ABBREVIATIONS

AED	Academy for Educational Development
AI	Avian influenza
A-A	Animal-to-animal transmission
A-H	Animal-to-human transmission
BPE	Backyard poultry enterprise
BSH	Backyard smallholder household
CEDAC	Centre d'Etude et de Developpement Agricole Cambodgien
ECTAD	Emergency Centre for Transboundary Animal Diseases
FAO RAP	FAO Regional Office for Asia and the Pacific
FAO	Food and Agriculture Organization of the United Nations
FC	Fowl cholera
FGD	Focus group discussion
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
HPAI	Highly pathogenic avian influenza
IEC	Information, Education and Communication
IPC	Institut Pasteur du Cambodge
KAP	Knowledge, Attitudes and Practices
ND	Newcastle disease
NGO	Non-governmental organization
RO	Reporting Officer
TOR	Terms of Reference
UN	United Nations
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
VAHW	Village animal health worker
WHO	World Health Organization

EXECUTIVE SUMMARY

This study uses mixed-methods, participatory tools, and anthropological questions to clarify the beliefs and practices of smallholder farmers in rural Cambodia, with an emphasis on local understandings of poultry disease in general and avian influenza in particular. The purpose of the study is to involve communities in the policies that affect their lives and to develop better communication strategies for bringing about behaviour change.

The overall problem that motivates this report is the striking gap between high levels of awareness of priority messages and the continuing prevalence of high-risk behaviours among target audiences in rural Cambodia. The combination of high “awareness,” high levels of risky practices, and the persistence of some troubling beliefs regarding transmission of HPAI is well documented in a number of large-scale sociological surveys recently conducted in the country. Bridging this gap is the challenge facing future communication activities in Cambodia.

As originally conceived, one objective of the project was to develop a methodological platform that could be applied in different national contexts to set out to answer similar questions regarding local beliefs and explanatory models relevant to controlling zoonotic diseases like HPAI. Though a small arsenal of tools has been developed for participatory rural appraisals in the last two decades, in the case of Cambodia where many of the more specialized tools have already been used to fill in the blanks, the project was best served by tried-and-true participatory tools like focus groups discussions and key-informant interviews. Of course, a platform needs more than a set of tools. To this end, the results of this study were used to begin to develop a more clearly defined set of *metrics* for evaluating priority messages and measures in terms of awareness, understanding, and practicability in order to assist the development and assessment of Information, Education, and Communication (IEC) materials.

This report’s approach to bridging the divide between awareness and practice is to start by asking what people *already do* to protect the well-being of their poultry and families. It turns out that households already take a number of steps to protect the well-being of their families and flocks in the event of sickness and death in their poultry. Though some of these practices increase the risk of animal-to-animal (A-A) transmission or animal-to-human (A-H) transmission of HPAI, a primary conclusion of this study is that some of these pre-existing practices also represent opportunities to build upon and better involve communities in HPAI control measures.

After clarifying *what* people do to protect their flocks and families, the next question to be asked is *why* people do the things they do to protect their flocks and families. In asking this anthropological question one encounters a range of beliefs, values, priorities, and considerations that fundamentally inform what people do and why they do it. Some of these beliefs and values underpin a much wider range of practices, including many that have proved especially difficult in terms of behaviour change in Cambodia (e.g., lack of reporting, lack of personal protection measures, continuing consumption of sick and dead poultry, and others). An anthropological perspective suggests that communication strategies should focus on these underlying beliefs and models in order to better change priority behaviours that have heretofore been addressed in piecemeal fashion through individual messages targeting particular behaviours.

To this end the RO makes a number of general recommendations:

- Monitor and manage the indigenous taxonomy of poultry disease, especially *dan kor kach* and *pdash sai back sey*. Unfortunately, these categories do not map neatly onto the

technical categories upon which communication strategies must also be based. *Dan kor kach* is a generic term for seasonal illness and death in chickens. It is considered natural, impossible to prevent, and difficult to treat. In technical terms, *dan kor kach* refers to Newcastle Disease, but could mistakenly be used to refer to HPAI, given the similarity of symptoms. *Pdash sai back sey* is a new term that has been introduced by HPAI awareness campaigns. Confusion about this new term and its relationship to *dan kor kach* is a primary obstacle to behaviour change in Cambodia. Though communication strategies must be based on sound technical recommendations, they must also learn to think in terms of a local disease taxonomy which may not be concordant with bio-scientific categories. Once introduced through “awareness” campaigns, a new term like *pdash sai back sey* can take on a life of its own. This report concludes that in order to be effective in terms of behaviour change, HPAI communication strategies must monitor and manage *both* terms, *dan kor kach* and *pdash sai back sey*. It turns out that effective HPAI communication may entail changing Cambodian backyard farmers’ ideas about *dan kor kach* just as much as *pdash sai back sey*.

- Work with existing explanatory models, encouraging a shift from a “naturalistic” model of poultry death to a “contagion” model. The naturalistic model associated with *dan kor kach* entails a treatment model of response; households seek cures and generally feel helpless. The contagion model much better lends itself to the sorts of prevention measures promoted by FAO and partners.
- Focus on risk-perception, not fear. In FGDs, the degree to which groups reported changes in community behaviour was not correlated with higher levels of awareness or fear, but was rather positively proportional to the degree to which people saw their poultry and families at risk.
- Work with the indigenous sensibility that “hearing is just hearing; seeing is believing”.
- Make the difference between households that rely on poultry as assets and those that rely on poultry for income a primary *consideration* for the development of all communication strategies and IEC materials targeting backyard farmers in Cambodia.
- Make gender dynamics within the household a primary *consideration* for the development of communication strategies and IEC materials targeting the backyard farmer in Cambodia.
- Work with pre-existing practices, especially indigenous practices of “separation.” This approach represents the best hope for improving biosecurity through communication given the reality of Cambodian farmers’ backyard poultry production systems.
- Connect messages to local (as opposed to technical) rationales. Promote awareness of why the behaviour or investment advocated in a message makes sense from the audience’s point of view.
- Connect messages to local values and priorities, especially family well-being and prosperity.

The report concludes it is time to build on current success creating widespread awareness and basic understanding of priority HPAI messages to begin a “next wave” of communication strategies that better bridge the gap between awareness and practice in Cambodia. Today, backyard farmers encounter the current generation of priority messages as a set of imperatives: “wash your hands

with soap or ash," "separate new poultry for 14 days," "clean the yard." When a rationale is provided, it is often a technical rationale. A technical rationale is great for identifying practices to promote, discourage, or target through communication strategies. But it will never be able to convince anyone *why, from their point of view, it makes sense to do things differently*— i.e., a local rationale. Communication strategies in Cambodia need to promote an additional sort of "awareness," the *awareness of why a practice or investment makes sense from the point of view of the audience*. Perhaps most importantly, current messages regarding animal-to-animal transmission need to connect up with local values and priorities—something that should be easy considering how intimately poultry are woven into households' lives. For the smallholder farmer in rural Cambodia, *values* like "the sake of humanity" or "civic responsibility" are not going to get much local traction. Instead, the results of this study suggest "family prosperity and well-being" is by far the best candidate for linking priority messages to a value for which people would indeed go to great lengths.

INTRODUCTION

In Cambodia, as of August 2007, there have been at least 22 detected outbreaks of HPAI in poultry and seven fatal human cases from the H5N1 virus. HPAI has contributed to widespread illness and death in domestic poultry with devastating economic consequences for Cambodia's backyard farmers, who make up the vast majority of the country's rural population.¹ Over 90% of all poultry in Cambodia are produced and raised by rural households with small, seasonally fluctuating stocks of poultry—usually chickens, ducks, or a combination of both. These households are generally characterized by low levels of income and limited access to education.

As the HPAI crisis continues to unfold throughout Southeast Asia and other parts of the world, the Government of Cambodia, the United Nations, and a number of NGOs have been working together on regional and national strategies for stopping animal-to-animal and animal-to-human transmission of HPAI. While there has been a strong emphasis on A-H protection measures, these strategies recognize that controlling the circulation of the virus in poultry is the best hope for achieving a sustainable reduction in opportunities for A-H transmission.

As with all health campaigns, communication and education efforts will play a vital role in the overall strategy to control avian flu. Ineffective communication strategies are notorious for undermining—and even undoing—projects that are otherwise technically and financially sound. Of course, the development of IEC materials must be based on the best available scientific information about a disease, especially when the objective is to identify factors that contribute to patterns of transmission or risk of infection. But no matter how sound a recommendation is from a technical point of view, it is rendered effectively irrelevant if it fails to bring about the desired change in the behaviour or environment of the target population.

Effective communication strategies must be grounded in and cognizant of people's cultural and material lives: their needs and responsibilities; their attitudes and commitments; their beliefs about health, illness, and disease causation; and the priorities and constraints that inform their daily practices. This anthropological participatory study is designed to do precisely that.

BACKGROUND

The overall project is designed to complement several large-scale sociological surveys recently conducted in Cambodia by a number of organizations. The results of these studies form a “background” that gives the present qualitative analysis a generalizability that would otherwise be impossible.

- *Backyard poultry farmers and Avian Flu in Cambodia, a baseline survey*, commissioned by AED (December 2005)

¹ In this report I use the terms “backyard” and “smallholder” interchangeably. Both refer to households that normally keep between one and 200 poultry. Despite this seemingly large range, it is important to note that the “typical” rural household usually has relatively small flocks. In the Pasteur KAP survey sample the median flock size for households was 12 for chickens; 8 for ducks; and 18 for ducklings. The term “backyard farmer” refers to a household, not a person.

- *Knowledge, Attitudes and Practices in Poultry Handling in Rural Areas, Cambodia*, by IPC & FAO (April 2006)
- *Evaluating poultry handling behaviour among backyard poultry owners, their families and poultry market merchants*, KAP survey conducted by IPC for UNICEF (April 2007)
- *Gender and Socio-Economic Impact of HPAI and Its Control on Rural Livelihoods and Bio-Security of Smallholder Poultry Producers and Poultry Value Chain In Cambodia*, by Centre d'Etude et de Developpement Agricole Cambodgien (September 2007, results still preliminary)

The KAP surveys and CEDAC livelihood study have mainly focused on the provinces of the country considered to be at highest risk of outbreak, including areas with previous outbreaks of HPAI, high human and poultry population densities, and significant cross-border poultry movements with neighbouring countries. The results of these studies provide a wealth of useful information that forms the background for the present study, but they also raise a set of unanswered questions that need to be addressed before FAO and partners can build on their successes raising awareness and understanding of HPAI in order to develop new communication strategies that more effectively translate into actual changes in high-risk behaviours.

The results of the KAP surveys indicate that HPAI communication campaigns in recent years have been remarkably effective in raising “awareness” about HPAI and conveying basic messages about personal protection measures. One reason for the present study is the surveys were arguably less successful at collecting useful information about people’s understanding and awareness of poultry-to-poultry transmission. Furthermore, the KAP surveys also show that despite high levels of awareness, many rural backyard farmers continue to engage in behaviours that facilitate A-A and A-H transmission of HPAI like improper disposal of poultry carcasses and waste products, free-ranging of different types of poultry, preparation and consumption of sick and dead poultry, and lack of hand-washing with soap after handling poultry. A primary aim of this study is to understand why, despite high awareness of priority messages, many risky behaviours continue as before. The results of the 2007 AED-FAO KAP study, due in September, will shed considerable light on the progress made by communication strategies and IEC materials in the last few years.

PROJECT AIMS

The research has four components, each designed to complement the KAP surveys and CEDAC livelihood study results.

- 1) The first concerns the findings of the KAP surveys, with the hope of clarifying the disconnect between high levels of “awareness” and continuing high-risk behaviours. Bridging this divide will require investigating local knowledge, awareness, and practices through qualitative participatory tools like focus groups discussions and key-informant interviews.
- 2) The second concerns evaluating the significance of the CEDAC results from the perspective of communication decisions, particularly the observation that households which keep small numbers of poultry as assets may be significantly different from households that rely on poultry flocks (usually ducks) for income. This participatory project attempts to further evaluate the significance of this difference from the perspective of communications.

- 3) The third component focuses on the experiences and recommendations of communities that have been directly affected by outbreaks of HPAI, either in animals or humans. The purpose of this component is to contribute to the development of communication strategies and IEC materials for future scenarios of suspected and confirmed outbreaks of HPAI in Cambodia.
- 4) The fourth set of questions is intended to generate some preliminary information about populations of backyard poultry farmers who live in more remote areas of the country, are less exposed to HPAI information materials, and are ethnically and culturally distinct from the population samples of the KAP and livelihood surveys.

SAMPLING AND METHODS

Though a small arsenal of sophisticated research tools has been developed for rural appraisals in recent years, simple participatory techniques like focus group discussions and key-informant interviews are best suited for the situation in Cambodia. Now that larger quantitative studies have shed some light on WHAT people do and HOW people do it, flexible qualitative tools are in a position to facilitate community participation in order to answer the anthropological question *par excellence*: WHY? Understanding the answer to this question is vital to developing communication strategies that will succeed in getting people to change how they normally go about things.

Purposive sampling was used to target four different groups of small-scale poultry producers. Participant groups were defined and study sites were selected in consultation with FAO Trainers for Village Animal Health Workers. Each trainer offered specific insights about the dynamics and characteristics of their respective provinces, which were then used to target specific districts, communes, or villages for sampling. Two FAO Trainers for Village Animal Health Worker also collaborated on the project in the field. Without the help of Mr. Ny Mouyry and Mr. Heng Virith in facilitating the participatory discussion groups, the project would not have been possible.

- The first sample was recruited in a manner that attempted to make it roughly similar to the larger samples represented in the KAP surveys and the CEDAC livelihood study. Field sites were selected from districts included in the previous studies and using the same set of inclusion criteria: high human and poultry densities, small holdings of household poultry, and significant cross-border poultry movements in the area. Like the KAP samples, this group was expected to have high-awareness of some basic priority HPAI messages. This group did not include villages or districts which have experienced HPAI outbreaks to date.
- The second set of participants was recruited from villages and districts that have had first-hand experience of outbreaks of HPAI. FGDs were conducted in four villages that experienced HPAI outbreaks in poultry only as well as two villages where there were human cases. FGDs and observations were specifically designed to help develop better communication materials for use in the event of the next suspected or confirmed outbreak in Cambodia.
- The third set of participant groups was recruited from districts and villages with high proportions of households that rely on backyard poultry production *for income*. Preliminary results from the CEDAC livelihood study suggest that this group might be significantly different from the majority of backyard farmers who use poultry as an asset rather than a source of income. Duck production practices are also of particular concern since HPAI can

often circulate in infected flocks of ducks without causing recognizable symptoms or conspicuous clusters of mortality.

- The fourth set of participant groups was recruited from communities in a province that was not included in the KAP surveys or CEDAC livelihood study. Participants were backyard farmers, migrant labourers, and local authorities from five villages in three districts in the Rattanakiri province. Samples were drawn from communities with large minority populations which we hypothesized may have characteristics that set them apart from the sample of backyard farmers targeted in the KAP and livelihood surveys, as well as less exposure to and awareness of HPAI messages.

Once districts, communes, and sometimes villages were identified for inclusion in the study, organizing the discussion groups was fairly straightforward. Our first stop was always at the office of the commune chief, where the study team asked for permission, explained the general purpose of the study, and talked with her or him about which villages in the commune best fit the characteristics we were currently targeting (e.g., high proportion of households relying on poultry for income). Next the study team would drive to the selected village and seek out the village chief for explanation and consent. Sometimes the chiefs were able to call together small groups in a short amount of time; other times we had to schedule a future meeting at a time or day that better fit the schedule of the farmers. FGDs were initially divided by gender for several reasons. First, it is well established that the “household” is not necessarily constituted by a single economic unit with common objectives and resources. Rather, different members of the household can have different or even contradictory interests with regard to agricultural production, poultry, and livestock. Second, in some societies women are less likely to express contradictory views in the presence of men. Lastly, men and women in rural Cambodia have different responsibilities and different availability during different times of the day, depending on the season.

The majority of data for this study came from participatory focus group discussions. FGDs in rural communities are best done in “natural” settings for community gatherings. Discussions for our study generally took place outdoors in the shade of a tree, in a public space like a pagoda or schoolhouse, or in the shade under someone’s house. The important point for organizing FGDs is to create an environment where people feel relaxed and free to express their views. The trick is maintaining enough structure to keep the conversation on topic and to facilitate making a record of the event for later analysis. Flexibility is important in order to pursue unexpected findings in a timely manner.

Challenges encountered in the field

The study was conducted during the rice planting season and in two cases the village chief was simply unable to get enough people together for a scheduled FGD. Also, given the variety and openness of settings for FGDs, it was not uncommon for a group of spectators (usually children) to gather around and watch the proceedings. Though the study team generally tried to divide FGDs into male and female groups, in several cases a small number of the opposite gender joined in and contributed to the discussion. In two cases, we decided to do mixed focus groups because our previous experience indicated that Khmer women were no less likely to express their opinions in the presence of men. The importance of gender relations in the household is addressed in General Recommendation #6 on page 33. In one FGD it appeared that participants were provided with information about what would be discussed and how to respond to questions beforehand. This was taken into consideration during the analysis of FGD data.

As originally conceived, a videographer was going to document all FGDs in order to provide a record of participant responses for qualitative analysis. For technical reasons related to the format in

which the video was recorded, it was impossible to get many of these archives into a format amenable to transcription in a timely manner. For this reason, the RO began making separate recordings of FGDs for transcription. Most of the data analyzed and presented in this report comes from the RO's notes and rapid transcription of these recordings. The project timeframe did not include enough time for transcription and analysis of all the data from FGDs. Thus, some of the nuance and "richness" that comes from verbatim transcription of participants' responses is missing from the report. Future projects should build in a few days of additional time for transcription and analysis of qualitative data. Annex 5 provides the videographer's explanation of technical obstacles to providing complete documentation of FGDs for transcription and analysis.

Building a "methodological platform"

One of the reasons for the present study was to develop a "methodological platform" applicable to multiple national or regional contexts but flexible enough to adjust to the particularities of different situations. A small arsenal of participatory techniques has been developed for rural appraisals in the last two decades. In the case of Cambodia, we relied primarily on simple participatory *tools* like focus group discussions and key-informant interviews, since much of the data that would require other participatory techniques was already available from larger-scale systematic surveys (e.g., division of household poultry-handling activities by age and gender, etc.). A nice compilation of useful participatory communication tools is assembled in *Behaviour Change Communication in Emergencies: A Toolkit*, developed by UNICEF's Regional Office for South Asia in 2006 (available at http://www.keenpub.co.th/unicef/communication_tools/). Future work in other contexts could incorporate a wider range of tools than the FGDs and key-informant interviews used for this study in Cambodia.

Focus group discussions and key-informant interviews are *tools*, not methodologies. So in order to develop a more generalizable *platform* for future research on the anthropological dimensions of zoonotic disease control, the results of the study were used to develop a more clearly specified set of *metrics* for evaluating the awareness, practicability, and understanding associated with specific priority messages and promoted behaviours. A metric is an analytical construct that renders a dimension of experience amenable to evaluation and, in principle, measurement. The metrics assembled in this report can assist the evaluation and development of communication strategies as well as IEC materials.

The distinctively anthropological element of the platform lies in the overall sort of questions that motivate the design of study instruments and the implementation of fieldwork. The anthropological dimension of participatory research entails not only clarifying WHAT people do and HOW they do it, but also links this understanding to WHY people do what they do in the way that they do it. This approach does not begin by asking why people are not doing the things FAO and partners suggest they should do to protect their poultry, but rather begins with the question: What do people already do to protect their flocks and families in the event of poultry illness or death? An adequate answer to this question involves clarifying underlying cultural models, beliefs, and priorities that underpin these practices.

The functionally integrated combination of *tools*, *metrics*, and *anthropological questions* assembled in this report represents a first step towards developing a generalizable research platform that can be applied in a variety of contexts in order to address a range of communication problems associated with zoonotic disease control. Further development of the platform will require research in other contexts besides Cambodia.

MAIN FINDINGS

We conducted twenty participatory discussion groups with 151 men and 190 women in 13 districts in seven provinces. We also conducted multiple observations and key-informant interviews involving various sorts of poultry buyers and vendors at poultry markets ranging from the village-based market to larger regional markets. Table 1 presents the gender of participants, where the discussions were conducted, and whether and when there had been an outbreak of HPAI in humans or animals in the community.

Table 1 Location, outbreak status, and gender composition of focus group discussions

Date	Village	Commune	District	Province	Outbreak (Date)	Male	Female
1/8/2007	Krao Thmei	Reakchey	Baphnom	Prey Veng	No	18	0
1/8/2007	Thmor Trang	Reakchey	Baphnom	Prey Veng	No	0	18
2/8/2007	Chek	Somrong	Chantrea	Svay Rieng	No	0	26
3/8/2007	Chambak Kaong	Ta Sous	Svay Chrom	Svay Rieng	No	11	
7/8/2007	Taing Krang	Chea La	Batheay	Kp Cham	Poultry (13/8/06)	4	7
7/8/2007	Balaing	Sambo	Batheay	Kp Cham	Poultry (25/8/06)	10	3
8/8/2007	Laak	Krek	Ponheakrek	Kp Cham	Human (6/4/07)	10	0
8/8/2007	Laak	Krek	Ponheakrek	Kp Cham	Human (6/4/07)	0	18
9/8/2007	Trapong Prey	Kean Sangka	Sou Nikum	Siem Reap	No	9	1
9/8/2007	Doun Lei	Kean Sangka	Sou Nikum	Siem Reap	No	0	16
10/8/2007	Beong	Krobey Real	Pouk	Siem Reap	No	17	0
15/8/2007	Ban Pong	Pong	Voensai	Rattanakiri	No	3	27
16/8/2007	Pi	Kachangne	Banlung	Rattanakiri	No	19	11
16/8/2007	Tang Pleng	Ochum	Banlung	Rattanakiri	No	0	24
16/8/2007	Boun	Kachangne	Banlung	Rattanakiri	No	7	7
17/8/2007	Trang Svay	Ochum	Banlung	Rattanakiri	No	9	3
21/8/2007	Trapaing Robeum	Sre Ronoang	Tramkok	Takeo	Poultry (21/2/04)	13	0
21/8/2007	Trapaing Robeum	Sre Ronoang	Tramkok	Takeo	Poultry (21/2/04)	0	17
22/8/2007	Kear Thavong Kron	Trapaing Sala Le	Bantheay Meas	Kampot	Human (23/3/05)	21	0
22/8/2007	Kam Markor	Samlanh	Angkor Chey	Kampot	Poultry (22/3/06)	0	12
Total						151	190

THE PROBLEM: THE GAP BETWEEN “HIGH AWARENESS” AND PRACTICE

Our results confirm several of the KAP survey findings that are directly relevant to adjusting current HPAI communication strategies.

The good news: High “awareness”

The Pasteur KAP survey found 99.5% of adults and 95% of children in the sample were “aware of AI.” There was no significant difference in level of “awareness” between male and female adults.

In our group discussions, awareness of specific recommendations related to **preventing A-H transmission** was common, especially in and around communities that have experienced animal outbreaks or human cases of H5N1. When asked what people think they can do to protect themselves from getting *pdash sai back sey*, most groups could effectively compile a list of messages like:

- Don't touch dead poultry
- Cover your mouth and wear gloves when preparing poultry
- Wash hands after handling poultry
- Cook food thoroughly

There seemed to be somewhat lower levels of awareness about specific messages related to **preventing A-A transmission**. Nonetheless, when asked what people can do to prevent their poultry from getting *pdash sai back sey* many groups could still collectively recite a list of priority messages including:

- Keep healthy poultry away from sick poultry
- Bury dead poultry
- Clean the yard

Unfortunately, in many cases the question—what can you do to protect your poultry from *pdash sai back sey*?—was answered with another question: “We don't know. What CAN we do to protect our poultry from *pdash sai back sey*?”

It is impossible to say anything statistically generalizable about levels of **awareness in Rattanakiri**, but based on FGDs as well as conversations with people familiar with the area it is fair to characterize awareness in the province as highly spotty and concentrated around the city of Banlung. The mostly bilingual Lao-speaking group from Voensai district said they recognized the word “*pdash sai back sey*,” but were totally unable to collectively generate a list of any A-A or A-H prevention messages or measures. Rain and road conditions prevented study access to communities far beyond those most accessible from the provincial capitol, but even in Banlung district we found varying levels of awareness about priority messages. In a group discussion that included village chiefs and a commune chief in Banlung district in Rattanakiri, at least two of the village chiefs did not recognize *Super Muan* (Super Chicken) and several said no one had come to speak with them about *pdash sai back sey*. All said they thought their communities would benefit from more awareness and education activities. One participant from Banlung reported he was trained as a village animal health worker by CARE.

The bad news: High “awareness” has not translated into changed behaviour

Many people continue to prepare and consume sick or dead poultry. Data from FGDs suggest that the practice is still widespread, and certainly more prevalent than the levels reported in larger-scale statistical studies. Often, early in discussion groups people insisted they never ate dead poultry. But as conversation unfolded and people relaxed someone would eventually chime in that of course many people eat the dead poultry. Once the public secret was out, many of those participants who

first denied the practice soon modified their answers: “I never eat dead chickens, unless of course it is a big one and hasn’t been dead for too long.” Or “I never eat dead poultry unless the body is still warm.” Or “I eat dead poultry, but I am sure to cook it very well.” Or “I never eat dead poultry. If it is sick and I can tell it is going to die then I will kill it first.” In every group discussion we conducted, participants acknowledged that it was perfectly normal to eat dead poultry in the times before anyone heard anything about *pdash sai back sey*. Fifteen of the twenty focus groups reported continuing and widespread consumption of sick and dead poultry in their communities to the present day, even after learning about *pdash sai back sey*. It is noteworthy that three of the five groups that reported an end to the practice of eating dead poultry in their communities came from villages where there have been human cases of HPAI.²

Very low levels of use of so-called personal protection equipment. Everyone we talked to agreed that it was very uncommon for people to wear gloves or cover their mouths when handling or preparing poultry. It is hard to overstate how mundane interaction is with poultry in the household and the market in rural Cambodia. Remember: The idea that one should have to protect oneself from one’s poultry is literally exotic!

Low levels of reporting. Participants agreed that it was uncommon to report poultry morbidity and mortality. Participants listed many reasons for this. The most common reasons were 1) poultry death is common and natural, especially during certain times of year; 2) poultry death is ordinary and does not merit more than a casual mention to neighbours; 3) it is useless to report sickness in poultry since treatment is generally ineffective and poultry will end up dying anyway; 4) even if people do report, the authorities will not do anything about it; and 5) people do not know to whom they should report. When asked whether people ever called the hotline to report, participants said that the cost of the call was prohibitive. In two FGDs conducted in communities that experienced HPAI outbreaks in poultry but no human cases, participants linked the lack of reporting to a combination of helplessness and a fear of culling. The sentiment expressed was basically: “why report when it does not help us keep our poultry alive and the best we can expect is the culling of our flocks with no compensation?”

A host of erroneous beliefs about transmission of HPAI. It would not be productive to enumerate all the beliefs that have grown up around and attached themselves to *pdash sai back sey* in Cambodia. The prevalence of many common (and in some cases disturbing) beliefs about transmission of HPAI is well-documented in the Pasteur KAP study. Nonetheless, a few of these “erroneous beliefs” are particularly relevant to efforts to control HPAI and will be dealt with in more detail below.

“Biosecurity” is almost entirely non-existent.

- Virtually all household flocks are free to scavenge for food, at least during the day.
- Domestic poultry mix freely with one another, wild birds, and other animals.
- New poultry are rarely adequately quarantined before being introduced into current flocks.
- People continue to throw dead poultry and poultry waste into fields and ponds.

Consistent with KAP survey results, there was a common and widespread understanding among participants that few people actually follow the recommendations in HPAI messages, even if individual participants in several groups claimed to follow at least some recommendations themselves. In FGD instruments, questions about how people handle their healthy, sick, and dead poultry were asked at two separate points and in two different ways, the first before there was any mention of *pdash sai back sey* and the second after asking the group to compile a list of measures that can help protect them from *pdash sai back sey*. The answers to both sets of questions confirmed the low levels of compliance documented in the KAP surveys.

² And, as noted in the section on “difficulties encountered in the course of research,” at least one of the remaining two groups to claim an end to the practice was probably coached.

It is this well-documented disconnect between “awareness” and actual practices that this study seeks to clarify and ameliorate. Bridging the gap between awareness and practice should be the primary focus of future communication activities in Cambodia. This report attempts to synthesize the results of a participatory ethnographic project with the results of the KAP surveys and CEDAC livelihood study in order to begin to develop a communication strategy that builds on awareness-raising successes to better bridge the gap between “awareness” and behaviour.

RETHINKING “AWARENESS”: METRICS FOR EVALUATING IEC MATERIALS

Given the apparent disconnect between “awareness” and behaviour change, it is helpful to break out the concept into a clearer set of categories. Unpacking “awareness” provides an opportunity to develop a more refined set of *metrics* for evaluating what is otherwise lumped together under a single vague term. These metrics represent a step toward developing a more general platform by which messages and their relation to desired behaviour changes can be better evaluated.

First, there is what could be called ***nominal awareness***, which is measured in surveys as percentages of positive responses to questions like have you heard of any new poultry diseases or do you know about *pdash sai back sey*? Nominal awareness also includes the degree to which people make the mental connection between an icon like *Super Muan* (Super Chicken) and something called *pdash sai back sey*.³ Even in the more remote districts of Rattanakiri we found near universal nominal awareness of, *at the very least*, the term “*pdash sai back sey*” along with a widespread sense that it can be deadly to humans and is worthy of concern and fear. Rattanakiri was the only province we visited where several participants, including village chiefs, did not recognize the connection between Super Muan and *pdash sai back sey*. Our results are consistent with KAP survey findings: In terms of creating nominal awareness, HPAI communication efforts in Cambodia have been a resounding success.

Next, there is ***awareness of priority messages***, which should be further broken into 1) *nominal awareness of messages*—the degree to which people can list and recite messages—and 2) *understanding of messages*—the degree to which people understand the link between messages and behaviours. In terms of nominal awareness of messages, participants in most group discussions could collectively compile a list of many priority messages. Nominal awareness of priority messages varied both within and between discussion groups, but was generally high. Groups seemed to struggle a bit more to list specific recommendations related to A-A transmission compared with A-H transmission. The (majority bilingual) Lao-speaking group in Voensai district were the only discussion group that was collectively unable to list any promoted A-A or A-H prevention measures. To use the language of the metric, they were the only group to express *zero nominal awareness* of messages.

In terms of ***understanding of priority messages***, the study team worked hard to figure out whether and to what extent people understood what was actually being asked of them in a variety of messages. At the end of group discussions the team asked people about the four messages on the IEC posters distributed after every FGD session. At first the team covered the text to see if people could figure out what behaviour was promoted in each of the pictures. It turned out people generally *understood* the messages (whether with or without the help of the text), in the sense that they could describe the behaviour that was being promoted in each of the messages. In most cases, people understood what they were being asked to do. In the language of the metric, understanding of priority messages was generally high.

³ “Super Muan” seems to function more like an icon than a logo or brand. People generally do not identify Super Muan with a particular organization or programme.

From participant responses, it quickly became clear that another metric was needed to assess the ***perceived practicability of priority messages***. In order to measure perceived practicability, we asked whether or not the behaviour depicted in the poster was something participants felt either they or their neighbours were capable of doing.

When these metrics of awareness, understanding, and practicability were used to analyze participant responses to each poster message, a number of interesting results emerged:

Wash hands with soap or ash

Despite the relatively low prevalence of the practice reported in the KAP studies (which is consistent with study observations that most people rinsed their hands only with water after handling and even slaughtering poultry), participants were generally aware of and understood this message. Furthermore, most participants said it was no problem for them to wash their hands with soap after handling poultry and that many people do so already. Interestingly, no one reported washing their hands to protect themselves against *pdash sai back sey*. Instead, participants in several groups said something like, *"Of course we wash our hands with soap, but it is not because we are afraid of pdash sai back sey. It is because we do not want our hands to smell."* These sorts of beliefs/sensibilities may seem insignificant, but corporate marketing strategies have shown they can be highly effective resources for getting people to change their behaviours (e.g., "no one likes stinky people whose hands smell like poultry!"—of course this is not to say this is a good strategy or message).

The bottom line is people were aware of the message, understood the message, and considered it practicable. "Wash hands"—whether in general or after handling poultry—is such a valuable public health message it is difficult to argue against. If FAO continues to use the message in posters intended for backyard farmers, the picture could be clearer about the *"after handling poultry"* portion of the "wash hands" message. This was the only part of the message some participants did not immediately understand when the text was covered and participants were shown only the picture. FAO may also want to consider where the message "wash hands after handling poultry" fits within their communication priorities, especially considering 1) the priority of better addressing poultry-to-poultry transmission of HPAI and 2) the amount of effort and resources being poured into promoting the message "wash hands after handling poultry" by other organizations.

Separate new poultry for 14 days and separate ducks from chickens

This message was the only one that was truly confusing for respondents. *Nominal awareness* was high,⁴ but *understanding* was complicated for a number of reasons. Even the professional translator on our team did not understand the rationale for separating new poultry from existing flocks for fourteen days until it was finally explained.

Study findings indicate FAO should reevaluate this message and how it is presented. As a preliminary exercise, it is useful to break the message "separate poultry" out into its constituent messages and evaluate each in terms of our metrics of awareness, understanding, and practicability. Without bothering to create a fancy table for grid analysis, one can already confidently conclude: *in terms of perceived (and actual) practicability, the message 'separate ducks from chickens' approaches zero*. Given the reality of backyard production systems and material conditions in most of rural Cambodia, the message is functionally meaningless because it is not practicable.

The two other messages, "separate new poultry from current flocks for 14 days" and "separate sick from healthy poultry" are another story. In terms of the metrics, it is hard to estimate the precise levels of nominal awareness and true understanding of these two messages. The important finding for the purposes of the study is that many participants pointed out that they *already* separate new poultry before introducing them to current flocks in order to keep the new poultry from wandering

⁴ Many people mentioned the FAO cartoon advertisement with song, saying their kids sing along.

away. Of course, since the rationale behind the practice is different from the technical rationale behind the recommendation "14 days," poultry were usually only confined for a couple of days, rather than the recommended two weeks. As for the second message, many participants mentioned that they learned to separate sick poultry from the rest of the flock from their grandparents; it was common knowledge passed down through generations. Also, as described below, people commonly "separate" sick from healthy poultry when they quickly gather together all their healthy holdings for immediate sale in the market once they see signs that illness and death are spreading through poultry flocks.

These messages of "separate" are dealt with in greater detail in the section *Recommendation #7*.

Build fences and keep poultry in enclosures

Every participant understood this message, was pleased by it, smiled, and said it was a great idea. But many of them felt it was not practicable, at least not for themselves or the majority of families in their communities. Fences were universally seen as desirable (perhaps in part because they are a sign of prosperity) but they are associated with a host of direct and indirect costs. Fencing (at least of the sort that would actually improve biosecurity) is not a likely possibility for the sort of backyard farmer who keeps a small number of poultry as low-input, low-output assets rather than a source of income. The following quote from a woman in a community that experienced an animal outbreak illustrates common attitudes about fencing:

Some people are now fencing their chickens, but only at night time. During day time, poultry walk free and are feeding themselves. This is because we do not have any money to feed them. We want to make the fence and fence chickens in one place but we do not have money to make a fence and to provide them with commercial feed. Fencing chickens in one place is better but we do not have the money to feed them.[...] We cannot buy commercial food because it costs a thousand riels per kilogram. Usually, we just feed our chickens with cooked rice left over from our food.

In other words, *awareness* and *understanding* of the message is high, but the degree to which the recommendation is considered *practicable* varies from household to household depending on socioeconomic circumstances and the sort of backyard poultry production the household engages in.

Most FGD participants did not report having a separate enclosure for their chickens or ducks; many of those who did said they built it with the help of an NGO. Regardless, there was universal agreement that no matter how or whether people housed their poultry at night, the birds were set free in the morning to roam about and scavenge for food during the day. The CEDAC livelihood survey sheds considerable light on why the fencing message is frankly *not practicable* for the majority of smallholder households that count on poultry as an asset. But even for those households that *can* and *do* build enclosures for their poultry, study observations reveal they are usually inadequate from the point of view of biosecurity, both due to material conditions (e.g., enclosures overlapping with shared water supplies; interaction through the fences with free-range poultry; etc.) and the reality of a production system in which many of the poultry that are enclosed near the home during certain times of year are also herded through fields to forage for food (often covering great distances) depending on the season.

Clean yards and burn faeces

Observations and conversations indicated that maintaining a relatively clean household area was already a widely held value ("public" areas like roadsides, etc. are another matter). However, this did not necessarily translate into regular cleaning of poultry houses or faeces, which were generally viewed as periodic chores rather than a daily practice.

When we covered the text of the message, many people understood the message about cleaning the yard but they did not understand that the substance the woman was dumping into the fire was poultry faeces. Before and after we pointed this out many participants mentioned that poultry faeces serves an important household function as fertilizer:

For me, my kids usually clean the house and pen. We use faeces for fertilizing our vegetables and rice because it is a very good natural fertilizer.

Another participant noted:

We use faeces for fertilizing our rice and vegetables. Chicken faeces are very good natural fertilizer. Vegetables grow fast. We also use chicken faeces and mix with ash to fertilize the rice seedbed. We don't use very much chemical fertilizer.

This does not necessarily mean the message should be dropped. The point is that decision-makers about communication activities need to consider that when they are asking Cambodian farmers to “burn poultry faeces” they are asking them to waste a resource that is commonly used to fertilize fields and household gardens. When asked if burning faeces was practicable, everyone agreed it was. But it is probably not a coincidence that no participants in any FGD reported burning poultry faeces as something they or anyone they know actually regularly practices.

To conclude, in the case of most priority messages, it does not seem that the problem is one of “awareness” or even (in most cases) understanding and perceived practicability of priority messages. What is missing could be framed in terms of another kind of “awareness,” which can also be turned into a metric: ***awareness of why the behaviour promoted in a message makes sense from the target audience's point of view***. Given the indisputable successes in raising awareness and understanding of priority messages in Cambodia, perhaps this additional sort of awareness is the one that future communication strategies in Cambodia will need to focus on in order to bridge the gap between “awareness” and practice.

ANTHROPOLOGICAL QUESTIONS: WHY THE GAP?

While it obviously must be founded on sound technical recommendations, the development of effective communication strategies and tools must also be grounded in the realities of the target audiences' lives. Furthermore, messages are more likely to succeed if they build on pre-existing understandings or practices. Therefore the question to begin with is not “Why aren't people doing the things we suggest will help them protect their poultry and family?” Instead, we should start with the question:

What do people already do to protect their flocks and family?

The question can be broken out into two sets of questions, one more relevant to A-A transmission of HPAI and one more relevant to A-H transmission.

What do people already do to protect their poultry?

- Many participants reported using a range of traditional (and not-so-traditional) remedies to treat sick poultry.
- Some reported seeking the (often dubious) advice and products of a local animal pharmacy (*neak lok thnam pet*).
- Some reported seeking the help of the local VAHW, district vet, or chief.
- Many reported separating new poultry for a few days to keep them from wandering off before setting them free to mingle with and scavenge among existing household animals.
- Many reported housing their poultry under the house at night to protect them from theft.
- Many said they buy only local poultry because they regard *pdash sai back sey* as something that comes from “far away,” from larger markets, and from other countries.
- A few said they avoid commercial feed and even vaccinations because they believe they can transmit *pdash sai back sey*. The avoidance of vaccines did not seem to be an expression of an underlying distrust of medical authorities so much as a practice based on previous experience of poultry illness and death after receiving vaccines.

- Virtually all participants reported a common practice of gathering some or all of their remaining healthy poultry for sale in the market once it appeared poultry sickness was spreading in their or their neighbours' flocks.

Obviously, some of these practices are undesirable from the point of view of biosecurity and human health. On the other hand, some might well prove to be useful resources if FAO and partners can modify and build on them (by first understanding the *rationale* behind them) through successful communication.

What do people already do to protect their families?

This question is tricky because traditionally, protection of poultry IS protection of family. The idea that one has to protect oneself and one's family FROM poultry is literally exotic to the backyard farmer in Cambodia.

- Since poultry is either an asset or an investment for the backyard farming household, the preparation and consumption of sick and dead poultry could well be seen as serving household well-being. Especially in the context of widespread poverty, this may in part explain the widespread continuing consumption of sick and dead poultry documented in this report. Poultry is an important family asset that has already lost the majority of its value by the time it is sick or dead. To bury it or throw it away is to waste what little value is left for a household.
- Now that people have heard about the danger of *pdash sai back sey* to human health, some households have introduced new practices to protect their families *from* their poultry. Of course, the findings of the KAP surveys suggest there is still a long way to go in terms of promoting behaviours that reduce the risk of A-H transmission of avian flu.

This brings us to the key anthropological question: *WHY do people do what they do to protect their poultry and the well-being of their families?*

To understand why people do things like those listed above, one must get to the underlying cultural models of animal health and illness that inform people's practices. Once an underlying rationale or explanatory system is exposed the analyst can begin to make general and corollary recommendations applying to a range of situations. The following recommendations apply to communications decisions in Cambodia.

GENERAL RECOMMENDATIONS FOR "BRIDGING THE GAP"

1) Work with the local taxonomy, esp. *dan kor kach* and *pdash sai back sei*

It is important to understand that Cambodian backyard farmers do not have an elaborate taxonomy of poultry diseases, as they may for other household animals. Participants generally used a single term, *dan kor kach* (or variations like *dan kor rech*, depending on the region) to cover ALL sorts of serious illnesses that affect their chickens. Recently a new term, *pdash sai back sey*, has been added to this indigenous taxonomy. The challenge for HPAI communication strategies in Cambodia is to convince people that something most of them have only recently heard about, *pdash sai back sey*, requires significant changes in the way they usually go about things, even though it would seem little else has changed. The truth is, households are used to their poultry dying, particularly during certain times of year. The unfortunate fact that the symptoms of other diseases are similar to HPAI makes the matter quite complicated. From a communications perspective, it is important to remember that the backyard farmer is not thinking in terms like "Newcastle disease." At least until the introduction of the spectre of *pdash sai back sey*, most serious illness in poultry was lumped under the single term, *dan kor kach*. *Dan kor kach* is universally reviled for decimating household

assets and investments, but it is considered natural, ordinary, not worth telling anyone about, and in no way a threat to human health.

Every set of focus group instruments was structured such that *pdash sai back sey* was not mentioned until the last section of questions. This technique yielded an important observation. When asked whether anyone had poultry that died since the last Khmer New Year (April), most participants said 'yes' and many said that significant portions of their flocks died in short periods of time. In virtually all cases, this poultry mortality was described in terms of *dan kor kach*, not only for die-offs at the beginning of the wet season but for year-round episodes of poultry sickness and death. So while "awareness" of *pdash sai back sey* borders on ubiquitous, when people told stories about what was happening with their poultry in the recent past it was generally understood in terms of *dan kor kach*, whether it happened last April or last week.

Interestingly, in a few FGDs it seemed the new term *pdash sai back sey* had altogether replaced *dan kor kach*. The implications of this are not immediately apparent. On the one hand, FAO and partners are asking people to "think AI first." On the other hand, it is quite possible that *pdash sai back sey* has replaced the term *dan kor kach* in name only, without displacing any of the attributes that make *dan kor kach* so troubling for HPAI control efforts: natural, normal, harmless, unavoidable. Based on what participants described afterward regarding reporting, handling of poultry, eating sick and dead poultry, etc., it seems quite possible that this is exactly what is happening in some places. There was not enough time in this study to truly delve into the nuances of how *pdash sai back sey* is being incorporated into local disease taxonomies, but any effort to control HPAI ignores such considerations at its peril.

GENERAL RECOMMENDATION #1

Manage the meaning of and relation between the terms *dan kor kach* and *pdash sai back sey*. The perceived "naturalness" of poultry sickness and death in rural Cambodia is one of the most important obstacles to developing communication materials that are effective in bringing about behavioural changes. This "naturalness" underpins several priority behaviours of concern: lack of reporting, lack of hygiene when handling poultry, the consumption of sick and dead poultry, and other practices that contribute to A-A and A-H transmission risks. Managing the meanings of and relationship between categories in the local poultry disease taxonomy should be an explicit priority for future communication strategies in Cambodia. For reasons spelled out in the next section, the meaning of and relation between two terms—*dan kor kach* and *pdash sai back sey*—should be a particular priority.

2) Work with local models of poultry disease causation

Among rural Cambodian farmers there are two parallel, simultaneously operating models for explaining and managing poultry sickness.

The "naturalistic" model

When asked why poultry die, every group cited seasonal environmental changes involving the heating of the ground and the arrival of rains. This model is rooted in a much broader hot/cold model (common in many parts of the world) that extends to understandings of human health. Many of the traditional measures used to treat sick poultry are based on correcting hot/cold imbalances. The list of traditional remedies reported by participants is too long to go into in detail. Remedies generally included soaking a substance (e.g., lemongrass, the bark of *kapok*, *kmuol*, or *vorpich* trees, or the leaves of *tuntreanket*, etc.) in water and then feeding the steeped liquid to the poultry. Since the hot/cold model also extends to human health, it was not uncommon for people to report using human medications to treat their poultry. For example:

Q: Do you go to buy medicine when your chickens are sick?

A: Yes. We buy medicine like Paracetamol. The medicine makes them cool. If we give humans this medicine one time a day, we should give it to chickens two or three times a day.

It was generally acknowledged that traditional remedies are often ineffective: “sometimes they work; sometimes they don’t.” But many participants said that they expect no better help from the local VAHW or district veterinarian. The poultry still usually end up dying, and the cost to the backyard farmer is often considerably higher than with household remedies. Linked to experience and the perceived naturalness of seasonal poultry death, there is a general sense of helplessness when it comes to protecting household flocks from *dan kor kach*. At the end of every group discussion participants were invited to ask their own questions. Usually one of the first questions was whether we could provide medicine or a cure to help treat sick poultry and keep them from dying.

This “naturalistic” seasonal explanation of poultry death obviously has important implications for AI control. As one male participant put it:

I will eat the poultry if it dies during the start of the rains since our chickens always die of dan kor kach this time of year. I have never seen pdash sai back sey.

Based on generations of experience, poultry morbidity and mortality from *dan kor kach* is considered *natural, safe for eating, and not worth reporting*. A few other quotes from the group discussions illustrate how explanatory models inform people’s attitudes and practices related to poultry disease:

Q: Usually, when do poultry die?

A: In between March and April, after Khmer New Year and when the rainwater starts falling. We were told to report to the village chief, but we did not tell him. We just threw them away when the poultry died. Chickens always die after the rain falls and the heat is coming out of the ground. There is no pdash sai back sey here. Chickens die here as they used to before.

Another participant added:

Chickens usually die between March and April so I know it is not pdash sai back sey because if it is they would not only die during this time, they would not only die just once a year. Chickens always die when it very hot.

This theme was common in many groups. Even when people are aware of *pdash sai back sey*, people feel especially safe eating poultry during the seasons when there are normally large die-offs, usually reported to be somewhere in the months between March and July. Importantly, many groups reported other times of natural die-offs (understood as *dan kor kach*) that could just as well occur at any other time of year. The period of October to December was commonly mentioned, but just about every month came up at least once.

The “contagion/contamination” model

A parallel, simultaneously operating explanatory model for *dan kor kach* is based on notions of *contagion/contamination*. Over generations, backyard farmers in Cambodia have seen “with their own eyes” how *dan kor kach* can quickly spread throughout their poultry and between neighbouring flocks. This explains why many rural farmers will quickly move to protect their assets or investments by selling healthy poultry when they start to see familiar patterns of *dan kor kach* in their own flock or in neighbours’ flocks.

The difference between these two models is very important. ***The naturalistic model entails a treatment model of response.*** People turn to traditional household remedies and seek professional cures for their poultry in order to keep them from dying. If the poultry live, the treatment “worked.” If the poultry die, the treatment didn’t work. In this explanatory model, people generally feel helpless as there is little to do but hope that remedies work.

On the other hand, ***the contagion model lends itself to a prevention model of response.*** Examples include farmers rushing to sell healthy poultry when it looks like sickness is spreading in flocks or buyers checking the vents of poultry before purchasing them and taking them to market. Even if the specific behaviours in these examples are not ideal, the underlying prevention model of response is the model FAO and partners are encouraging backyard farmers to adopt when it comes to HPAI.

GENERAL RECOMMENDATION #2

- Directly and explicitly address this problem of seasonal sickness as being regarded as natural and harmless.
- Communication campaigns should be stepped up to have maximum effect during high-risk periods like March through May, though the IEC materials should be good for any time of year.
- IEC materials should draw on existing explanatory models and encourage the shift from a “naturalistic” model (which encourages people to seek and expect treatment) to the “contagion” model (which encourages people to think in terms of prevention).
- Controlling AI may involve changing people’s ideas about *dan kor kach* as much as about *pdash sai back sey*. If backyard farmers could be convinced that the same changes they are being asked to make in the name of *pdash sai back sey* would ALSO help them protect their assets and investments from the much more tangible ravages of *dan kor kach*, many backyard farmers would go to significant lengths to do so.
- One way to think about it is that the challenge for strategies to prevent A-H transmission of AI is to convince people “*pdash sai back sey* is totally new and fundamentally different from *dan kor kach*.” Perhaps part of the challenge for a strategy to control A-A transmission of HPAI is to convince people: “*Dan kor kach* is not natural; it is more like *pdash sai back sey* and spreads from bird to bird (contagion model). If you do the things we recommend, you will not only protect your flocks and families from *pdash sai back sey*, you will also be protecting your assets and investments from *dan kor kach* and other illnesses that regularly cause so much illness and death in your poultry.” This is an example of raising *awareness of why a measure makes sense from the audience’s point of view.*

3) Build risk-perception, not fear

When *pdash sai back sey* was finally mentioned in the last section of the focus group instrument, the project team was able to learn quite a bit about people's understanding of and attitudes towards HPAI. These results resonated with many of the findings of the KAP studies, including the high proportion of respondents who have apparently conflated elements of HIV/AIDS and HPAI messages.

Three of the Pasteur KAP results deserve special consideration:

- Only 7% of respondents thought people could get AI from healthy poultry
- 89% thought there was increased risk in poultry from outside Cambodia
- Only 30% thought AI could be transmitted from poultry prepared at home

We found that frequent expressions of generalized fears and anxieties about bird flu were totally disconnected from whether and to what degree people perceived themselves or their communities to be "at risk." While levels of fear about *pdash sai back sey* were generally high, most people viewed *pdash sai back sey* as something that affects poultry "over there," "far away," "only in the big market," or in other countries like Thailand and Vietnam. People did not perceive poultry bought, raised and fed in their community as being at risk of *pdash sai back sey*. The following quote from a female participant illustrates this common theme.

We listen to the TV and radio, we believe in pdash sai back sey and we are afraid. But we do not want to throw the chickens away when they are big. We buried the small ones. I cooked the dead chickens, and I did not take precautions. Because we never buy chickens from the markets. The chickens are hatched right here in this village. [...] I only feed my chickens with rice from my household. So the chickens will not have pdash sai back sey.

Most participants reported being "afraid" of *pdash sai back sey* but nonetheless did not see themselves or their households at risk of the disease. Common reasons cited included:

- We only buy poultry from neighbours and nearby villages
- We only feed our poultry the rice from our house, not commercial feed
- We do not buy from large markets
- We do not buy commercial poultry or poultry from other countries

Among communities that have not experienced an outbreak, there was a general sense that *pdash sai back sey* was something that happens "over there" or "far away" and is not likely to affect the local community.

There was a remarkable difference between 1) communities that have experienced human cases or poultry outbreaks and culling and 2) communities that have not experienced detected outbreaks in either humans or poultry. Not surprisingly, communities that have experienced human cases or poultry outbreaks seemed more likely not only to know the priority messages, but also to report widespread local adoption of several recommended measures, especially 'don't touch or eat dead poultry' and 'bury dead poultry.' All of the groups from communities that experienced *human cases* of AI were among the few to deny even occasional community consumption of sick or dead poultry "now that we know better."

The difference between the groups that reported changing behaviours and the groups that said little had changed did not have to do with the level of awareness or fear. Virtually every participant in every group said they are "afraid" of AI. On final analysis, the difference between the two groups boils down to *risk perception*—the degree to which people genuinely considered their flocks and families to be at risk. Reports of widespread changes in community practices were positively proportional to the degree participants considered their poultry and their households to be at risk from *pdash sai back sey*.

GENERAL RECOMMENDATION #3

Focus on building risk-perception among rural farmers in Cambodia. Explicitly and concertedly focus on addressing a whole range of beliefs like “it won’t happen here because we hatch, buy, raise, and feed all our poultry locally.” Focus on raising awareness of “risk,” not fear.

Specific Recommendation

“Reality” TV and radio spots including message like: “I never thought this could happen to me. Here is my story.” “It could happen to anyone”, etc.

4) Work with the local epistemology: “Seeing is believing”

A common theme in FGDs was “I have heard about *pdash sai back sey* but I have not seen it with my own eyes” or “The moment we see someone die from eating dead poultry, maybe that will be the day people stop doing it.” A couple of participants cited a proverb to the effect, “hearing is just hearing, seeing is believing.” The following quote illustrates this theme (among others):

*When chickens are sick we process them for our meat before they die. If we cannot eat them all or cannot sell them, we eat [the dead ones] the next day. In regard to information about *pdash sai back sey*, some organizations showed the film in our village and provided us posters containing information about *pdash sai back sey*. We believe in *pdash sai back sey*. But we still eat because it is the habit of our people because when we eat sick or dead chickens, nothing happens. We raise chickens on our land, at our home, and we never buy commercial food for them. If we see someone eat sick or dead chicken and then they get sick or die, then we will stop eating them.*

I have characterized this observation as a “theme,” but it is really an underlying epistemology. Both explanatory models for poultry disease—naturalistic and contagion—are based upon this underlying empiricism. The rains come, my poultry die. My neighbour’s flock dies, my poultry die. It is hard to overstate the striking difference in the tone and risk-perception between the groups that experienced outbreaks and those that have not. Additionally, people said they were more inclined to believe something they were told by someone they trusted who had *seen* things first hand than something they heard about on the radio. This theme of “if we see it, then maybe things will change” was common in many groups.

GENERAL RECOMMENDATION #4

Appeal to the fundamental sensibility that “Hearing is just hearing; seeing is believing.”

Specific Recommendation

“Reality” TV or radio spots including message: “We used to eat dead chickens and there was no problem. Then we *saw* what happened in this specific place to these specific people.”

5) Consider different types of poultry production

The preliminary findings of the CEDAC livelihood study have implications far beyond the particularities of the sample. For one thing, the study suggests that two very different types of poultry production take place at the household level in rural Cambodia. In this report, these two groups are distinguished as the *Backyard Smallholder Household* (BSH) and the *Backyard Poultry Enterprise* (BPE).

For the BSH, poultry are an asset. For the BPE poultry are a source of income.

Assets can be drawn upon to sell in times of need or used for special occasions. As an asset, the loss of a chicken is much more than merely the loss of a meal; the value of a chicken exceeds its value as food. All respondents agreed with the basic sentiment: "We would rather sell our poultry than eat it. If we sell it we can buy food for three days or have money for what we need. If we eat it, we get nothing but a meal for a day." A chicken or duck that is sick or has died becomes almost worthless as an asset; its only remaining value is as food. In communities where many people have trouble meeting basic nutritional requirements, to bury dead poultry or throw it away rather than eat it or give it to a family member or neighbour in need is quite reasonably regarded as an unconscionable waste.

Observations and FGDs in communities where many households rely on ducks and duck eggs for income suggest that the backyard poultry enterprise (BPE) may be different from the BSH in ways that are significant for communication strategies. The two types of household may have a very different relationship with and understanding of priority messages. The consequences of HPAI outbreak as well as HPAI prevention and control measures may be different between the two types of households. Consequently, BSHs and BPEs may require somewhat different treatment in outbreak communication protocol.

GENERAL RECOMMENDATION #5

The difference between the BSH and the BPE should be an important *consideration* in the development of all IEC materials and future communication strategies in Cambodia. This does not necessarily mean developing two sets of IEC materials, which would multiply costs and fragment the audience; rather the difference between the BSH and the BPE should become a sort of "lens" through which specific recommendations and messages can be evaluated and adjusted.

- Of course, perhaps the differences between the two types of household production really are so significant that they deserve different IEC materials. This is one example where future research might be in order. An extension of the livelihood survey to a few other key provinces combined with a multi-sited small-scale anthropological study could help build on the CEDAC results in order to evaluate the implications of the differences between the BSH and the BPE from the perspective of communication.

Specific Recommendation

A useful exercise for the development and evaluation of all HPAI IEC materials would be to apply the *metrics* developed in this report to both the BSH and the BPE. The two different types of household may differ on key metrics, especially *perceived practicability* as well as *degree to which the practice or investment promoted in a message makes sense from the audience's point of view*.

6) Consider gender dynamics in communication decisions

The results from FGDs were consistent with KAP survey results that indicate that men, women, and children are responsible for different aspects of poultry production and care. While this report advocates treating "the household" as the primary audience of HPAI prevention messages, it is important to remember that the actual backyard farming household does not necessarily function as a single economic unit with common objectives, resources, or benefits in relation to poultry production. Issues to consider include:

- The responsibility for the practices or investment promoted in HPAI communication messages could disproportionately fall on the shoulders of women, men, or children.
- Women and men may have different household responsibilities or priorities that affect their ability to adopt recommended measures.
- The power to make decisions regarding the practices or investment promoted in HPAI communication messages may not be evenly distributed between women and men.

- Changes in flock size associated with HPAI outbreak or HPAI prevention and control measures may affect women, men, and children differently, particularly in terms of access to food, schooling, and health care.

Like the difference between BSHs and BPEs, gender differences can be used as a sort of 'lens' through which specific recommendations and messages can be evaluated and adjusted, especially when combined with the metrics developed in this report.

GENERAL RECOMMENDATION #6

Gender should be a primary *consideration* in developing and evaluating IEC materials and communication strategy.

Specific Recommendation

The development and evaluation of all HPAI IEC materials should begin by attending to gender dynamics and applying the *metrics* developed in this report. Though the KAP surveys did not find significant differences in levels of nominal awareness of HPAI between genders, women and men in Cambodia may nonetheless differ on key metrics, including *perceived practicability of messages*, as well as *degree to which the practice or investment promoted in a message makes sense from the audience's point of view*. The development and adjustment of messages should also consider the gender implications or priority messages in terms of burden of responsibility, household roles and priorities, decision-making power, and effects on economic control of and benefits from household resources.

7) Build on existing practices – Rethink “separation”

As already mentioned, this report recommends seriously rethinking the “separate types of poultry” and “keep your poultry in enclosures at all times” messages in light of the local reality in Cambodian villages. Frankly, the prognosis is grim for these two messages. This report identifies two sorts of “separation” already practiced by many backyard farmers when they experience poultry sickness that might be built upon or modified in order to increase biosecurity and bring about desired changes in behaviour.

First, many participants reported that people already commonly separate new poultry from existing flocks, but they only do it for a few days so the new birds do not wander off. This sort of practice can be an opportunity for behavioural intervention. This report recommends promoting the contagion/prevention models for all poultry diseases, including but not limited to *pdash sai back sey*, and clearly explaining that separating new poultry (for the fewest number of days technically reasonable) can protect your existing poultry (which, remember, are likely free-range--and if yours aren't, your neighbours' are) from sickness and death. Again, this is an example of raising awareness of why a promoted practice or investment makes sense from audience's point of view.

This strategy faces a crucial problem. FAO cannot promote measures under the pretence that they will help households protect their existing flocks, unless the measures *actually do* help households protect existing flocks. Putting new poultry under a bamboo cage will do nothing if there is not a buffer zone between the inside and outside of the cage, since other poultry are free to roam as they please. The daily free-ranging of poultry is a fact of life in Cambodian villages. It is the local reality. Technical recommendations and communication activities need to work with this reality. Though it is beyond the scope of communication recommendations, this report advocates the idea of stacking two low-cost bamboo cages of different sizes to make a bio-secure cage.

Communication could focus on creating a conceptual corner in the yard that symbolically belongs to new poultry in their bio-secure cage (and making sure people do not do the sort of things the study team observed on countless occasions like putting a bowl of water halfway under the bamboo cage so that poultry inside and out can drink).

Importantly, there is another set of common “separation” practices that could be incorporated into HPAI control efforts in rural Cambodia, particularly because the practices already operate on the contagion/prevention model. These practices involve the separation of sick poultry the rest of the flock. In FGDs, participants commonly reported separating healthy from sick poultry when they gather the healthy poultry for quick sale in the market. Obviously, FAO would like to discourage this practice since it undermines overall biosecurity. Though the practice makes perfect sense in terms of protecting household well-being and assets, participants maintained that it was still less than ideal. In most cases, households would rather not rush their poultry to market for a number of reasons, usually because the assets or investments have not yet fully appreciated.

In addition, several participants mentioned that they knew to separate sick poultry from the rest of the flock in order to prevent *dan kor kach* from spreading. Just as with the temporary confinement of new poultry, backyard farmers use bamboo cages. Again, while it is beyond the scope of communication recommendations, one can imagine creating a symbolic “place for sick poultry” where another low-cost bio-secure container could be placed and never moved or used for other purposes. Farmers could be encouraged to place poultry in the cage at the first signs of sickness. This approach could further be linked with a simple reporting mechanism (e.g., “if your sick cage is too full to put in more birds or more than *x* number of poultry have died in the cage, contact your village chief or VAHW immediately”). Obviously, great effort would have to go into making sure the ‘sick area’ was a place where children do not play and other household animals do not go.

This is just an example. The point is to 1) build on existing practices and 2) make sure the measures promoted will actually help the well-being of the smallholder household. If the measures do not help households but only entail additional costs and responsibilities, why would anyone expect farmers to adopt them? Given the reality of backyard poultry production systems in rural Cambodia and the low practicability of messages like “separate chickens from ducks” and “keep poultry in enclosures at all times,” this sort of approach likely represents the best hope of increasing biosecurity in rural settings in Cambodia.

GENERAL RECOMMENDATION #7

Build on existing poultry separation practices and promote the contagion/prevention models for all poultry diseases, including but not limited to *pdash sai back sey*. Clearly explain that separating new poultry (for the fewest number of days determined by FAO to be technically effective) can protect farmers’ existing poultry from sickness and death. This is an example of raising awareness of why a promoted practice or investment makes sense from audience’s point of view.

In order to be sure that the measures promoted in prevention messages actually do help households protect existing flocks, FAO and partners may have to pioneer alternative solutions to the simple “separation” messages. These solutions should 1) be low-cost; 2) take into account the burden placed on different sorts of households depending on their socioeconomic status and poultry production system; 3) take into account the burden placed on different members of the household; and 4) be based in the local reality of daily free-ranging of poultry in Cambodian villages. This report advocates the idea of stacking two low-cost bamboo cages of different sizes to make bio-secure cages for the separation of new and sick poultry, something many Cambodian smallholders already practice to some degree with single bamboo cages. Great care and effort would have to go into making sure that the practices promoted in IEC materials are both practicable and effective.

8) Connect messages with a “local rationale”

GENERAL RECOMMENDATION #8

Presently, the typical backyard farmer in Cambodia encounters messages about *pdash sai back sey* as a set of imperatives. Current messages are entirely disconnected from a **rationale** that makes clear how the behaviour promoted in a message “*makes sense*” from the audience’s point of view. Importantly, connecting a message to this sort of rationale does not mean spelling out the technical reasons one should sweep the yard, burn poultry faeces, wash hands, “separate,” or so on. Too often this is how the problem is handled in communication decisions. Rather, messages must somehow include a dimension that addresses why changing a behaviour *makes sense from the backyard farmer’s household’s point of view*. Fortunately, when it comes to HPAI most of the promoted changes would indeed make perfect sense from the backyard household’s point of view once connected to a well articulated rationale. Contrary to common sense, the task may actually be easier when the intervention concerns A-to-A rather than A-to-H transmission. Poultry sickness and death are something all Cambodian farmers can relate to and most have experienced. The project results indicate that just because people are used to having poultry die does not mean they do not go to considerable lengths to protect their assets or investments. People already adjust their actions when their or even their neighbour’s poultry become sick. Messages promoting a reasonable investment or modification of behaviour that is effectively connected with a rationale that “*makes sense*” to smallholder households—in the sense that it convinces them that the changes will actually protect the well-being of their families and their poultry—have the best chance of succeeding.

9) Connect messages to local values and priorities

GENERAL RECOMMENDATION #9

In order to truly “*make sense*” from a local point of view, the current generation of messages need to be better connected with local values and priorities. One can imagine a whole set of values that could be used, many of which are often already implicitly or explicitly incorporated in existing IEC materials—e.g., the sake of humanity or civic responsibility. Project findings suggest that there is an obvious candidate for a local value in the name of which people will indeed go to great lengths: **family well-being and prosperity**. In many FGDs people said they would do the things we suggested if it would help protect their poultry or would help their family prosper. There are many ways to better incorporate this value into a range of media, even posters (virtually every culture has visual symbols that represent well-being and prosperity). The typical backyard farmer in rural Cambodia will go to great lengths to ensure the prosperity and well-being of the household. Fortunately, this is also one of the primary goals and values that drive the work of FAO and partners.

SPECIFIC RECOMMENDATIONS FOR "BRIDGING THE GAP"

Communication in Outbreak Situations

One purpose of this study was to generate insights that will be helpful for the development of a communication strategy for various outbreak scenarios. Based on FGDs with 8 groups from 5 communities affected by HPAI, a number of relevant findings emerged.

Finding: People were often more upset about receiving contradictory information about compensation than they were about not getting compensation at all. In the groups affected by the earlier outbreaks, there were gripes about contradictory promises of compensation. People were dissatisfied with the communication from authorities and reported being confused about what was happening during the culling. Fortunately, it seemed people generally felt better about overall communication in Kampong Cham in April. They were consistently told they would not receive compensation. Most participants claimed to not mind because they just appreciated the 'help' they received fighting *pdash sai back sey*. Perhaps this thankful attitude is in part a reflection of the fact that there was a fatal human case.

Recommendations

- *Always provide clear and consistent messages about compensation (or lack thereof).*
- *Create and install mechanisms for keeping communities "in the loop" at all stages of the outbreak event.*
- *Create and install mechanisms for getting feedback from the community at all stages of the outbreak event.*
- *Provide regular updates.*
- *Never make promises that might not be kept*

Finding: There was general confusion about how long people ought to wait until they could restock.

- *Provide clear messages about when and how it is safe to restock.*

Finding: People in Laak village told rather extreme stories about the stigmatization of their village after the young girl died.

- *Address the issue of stigma in outbreak communication materials to be distributed in neighbouring communities.*

Finding: Many villages were told not to sell, hide, or move their poultry pending the results from the laboratory. In three of the groups with poultry outbreaks, participants maintained that people did not move or hide the poultry because the authorities told them not to. Instead, people just started eating as much poultry as possible in case the authorities came back with a positive result and started culling.

- *Continue assertive messages and measures to control poultry movement.*
- *Perhaps include a message about the importance of not eating poultry until lab results come back.*

Finding: The impact of an outbreak of the disease and subsequent control measures affected different sorts of households differently. The backyard farmers who relied on poultry as an asset rather than a source of income seemed less concerned about compensation and said that they did not go into debt because of the culling. They would not borrow money to restock; they would rather wait until they could buy again or they are given a gift of poultry from family. Participants in households that relied on poultry as a source of income were more likely to report going into debt, either because they borrowed for their initial investment or they borrowed to replenish their stocks. There are a host of other considerations that might result from this observation. After an outbreak, participants reported protecting themselves by temporarily limiting their dependence on poultry. The particular strategy would of course differ depending on whether the household used their poultry primarily as an asset or an investment. Many people said they were still going to “wait and see,” some had received a chicken or two from family elsewhere, others were starting to cautiously repopulate their stocks, including one woman who memorably pronounced that if they come and kill all her ducks again she will “give it up altogether.”

- *This is a good example of why gender and the difference between BSHs and BPEs should be primary considerations in a variety of decisions about communication.*
- *FAO and partners should work hard to create conditions where a woman whose household depends on poultry for its livelihood doesn't have to consider “giving up altogether.”*
- *In lieu of compensation, perhaps a form of micro-credit or low-interest loan could be introduced after culling in order to prevent borrowers from being victimized by predatory lending practices.*

The most important recommendation regarding outbreak communications

Build a robust, unambiguous but flexible protocol (in conjunction with partners) that dictates what happens when—if ‘a’ then ‘b’—in terms of communication and that incorporates the sorts of recommendations presented in this report.

Communication in remote communities

Frankly, targeting more remote parts of the country for communication will require more research. We found wildly discrepant levels of awareness and a diversity of practices, conditions, and relations to poultry in Rattakiri, and that was with only a few days and limited access to more remote parts of the province. Table 2 presents the ethnic/linguistic composition of our sample in Rattanakiri.

Table 2 Ethnic composition of participants in Rattankiri

Khmer Leu	Kreung	Tompoun	Lao	Cham
25	40	7	30	8

Specific Recommendations

It is the RO's understanding that FAO Trainers will soon be going out to some of these provinces to train more Village Animal Health Workers. *This is an important opportunity to collect information and observations.* Whether using formal brief surveys (e.g., 8-15 questions) or less formal mechanisms to facilitate regular debriefings with VAHW Trainers about their field experiences, these training activities are an extraordinary opportunity to get preliminary

information about poorly understood areas. At best, the results could directly aid the development of communication strategies. At worst, they could form the background for a targeted small-scale participatory study in priority areas in order to get communication activities started off on the right foot.

Regional coordination, media and communications

During the course of fieldwork the study team visited several border-crossings with Thailand and Vietnam. Some were the sort where there were border personnel and high volumes of traffic and goods crossing back and forth. We also visited several of the smaller border-crossing points, which did not appear to be monitored in any way. At one border crossing we observed bikes and products continually crossing back and forth between Cambodia and Vietnam. The team did not see any poultry movement at the border-crossing, but locals said that poultry buyers from Vietnam come over every morning to buy in Cambodian villages and take poultry back to the markets in Vietnam.

The point is well-established: the borders between the countries of the Lower Mekong sub-region (especially Cambodia, Vietnam, Thailand, and Lao PDR) are highly porous. Borders are less likely to serve as an obstacle to disease transmission as they are to be an obstacle to disease control efforts, including communication activities. National communication strategies should always keep a regional vision in mind. Also, since national borders do not necessarily coincide with ethnic or linguistic differences it is important that efforts be made to share information and IEC materials with partners that can benefit from them.

For example, the Lao-speaking communities in Rattanakiri (the ones who had nominal awareness of *pdash sai back sey* but zero nominal awareness of priority messages) have no access to broadcast television. However, many people do own televisions and VCD players, which is a primary source of entertainment. FAO should consider asking organizations that have already produced Lao-language video materials (including the exemplary movie, "A Father's Heart," which was reportedly quite popular in Lao PDR) if they can copy and distribute low-cost video CDs of this material to Lao-speaking communities that otherwise have little access to other media channels.

Media and channels

The power of the poster: Many people seem to love any sort of NGO poster. They are prominently displayed inside or outside of many homes. In some cases, it seems the number of posters displayed is almost like a display of social status, which makes sense considering posters are often distributed through official channels. Of course, *the problem is making sure the messages on the posters not only make sense, but make a difference.* The best way of accomplishing this would be to incorporate the posters into a larger coordinated strategy using multiple media and channels.

Television, radio, and VCDs: Most respondents in our study reported TV as their primary source of information about HPAI. Many also mentioned the radio. These observations are consistent with KAP findings. While the general recommendations above should apply to the development of all IEC materials, and no channel should be left unconsidered, television programming and advertisements, radio spots, and video CDs have the most flexibility and power when it comes to incorporating the general recommendations above.

Ideas to consider are TV spots consisting of interviews with real people affected by HPAI outbreaks and human cases. TV spots with Khmer farmers telling their true stories about what happened to their poultry and families when there was an HPAI outbreak could easily incorporate several of the recommendations made in this report: build risk-perception rather than fear; appeal to the empirical sensibility of the Cambodian farmer; connect messages to local values and priorities, etc. FAO is considering producing a television mini-series regarding HPAI in Cambodia. This approach has great potential because it could incorporate gender considerations as well as additional recommendations like 'distinguish between different sorts of poultry production systems,' and

'connect messages to local values and priorities.' As an example of a movie that arguably does a good job of incorporating these complex concerns, the RO recommends "A Father's Heart," which was produced as IEC material for Lao PDR. FAO should consider distributing this movie to Lao speaking communities in Cambodia and could even consider getting permission to add high-quality dubbing in Khmer to the movie and distributing or broadcasting it throughout Cambodia.

In addition to the limited findings of the post-review of recent FAO advertisements, the RO would add that many respondents in FGDs regarded the advertisement about "separating new from old poultry for 14 days" as somehow a message for children. The form and content of the message should be appropriate for the intended audience--in this case decision-makers about how household poultry are handled.

Community forums, community theatre, awareness marches, community trainings: In several FGDs people mentioned community forums, community theatre, awareness marches, and community trainings as significant sources of information for them about HPAI. Participants often did not know which organizations were involved in conducting these events. People who said they were directly involved in these activities seemed to have a better understanding of messages and the reason behind suggested behaviours than those who received information from TV and radio alone. The problem of course is evaluating these channels in terms of costs and benefits. It is the RO's understanding that a new community venue is opening in September in Busra district in Monduliri. This may be a good opportunity to reach communities that have lower levels of HPAI awareness and less access to broadcast television and radio.

CONCLUSION: DEVELOPING THE "NEXT WAVE" OF COMMUNICATION STRATEGY

Persuading people to change how they normally go about things is difficult. This is perhaps especially so when the intervention concerns basic issues of livelihood or when it contravenes long-standing common sense passed down from generation to generation. Evidence, experience, and common sense dictate that communications solutions produced in collaboration with the target audience are going to be more effective than those imposed without consultation and opportunities for meaningful dialogue. This participatory study hopes to be one of many efforts to involve communities in the policies and practices that affect their lives in Cambodia.

The problem currently confronting HPAI communication efforts in Cambodia is that high levels of nominal awareness and relatively high levels of understanding of priority messages have not yet translated into desired changes in behaviour. To that end, this report makes a number of general recommendations that should be incorporated in future decisions regarding communication strategies targeting backyard farmers—the vast majority of poultry producers—in Cambodia.

First, the results of the study were used to develop "metrics" that can be used for the development and evaluation of priority HPAI messages. At present, these metrics include:

- Nominal awareness of HPAI
- Nominal awareness of messages
- Understanding of messages
- Practicability of messages
- Degree to which the practices or investment promoted in messages make sense from the audience's point of view

As their name suggests, metrics are analytical constructs that render a dimension of experience amenable to evaluation and measurement. In principle, metrics could be scaled up for systematic data collection and quantitative treatment. In present form, the metrics are provided as devices for the qualitative assessment and evaluation of IEC materials.

This report also makes a number of general recommendations based on the anthropological realities of rural Cambodia. It turns out that in order to adequately understand what people do to protect their flocks and families in the event of poultry illness, one must attend to background explanatory models and understandings that *underpin* priority behaviours like reporting, separation, and personal protection measures. To summarize, general recommendations include:

- Monitor and manage the indigenous taxonomy of poultry disease, especially *dan kor kach* and *pdash sai back sey*. It is important to understand that these categories do not map neatly onto the biological or technical categories upon which communication strategies must also be based. *Dan kor kach* is an indigenous term for seasonal illness and death in chickens. It is considered natural, impossible to prevent, and difficult to treat. In technical terms, *dan kor kach* refers to Newcastle Disease, but could mistakenly be used to refer to HPAI, given the similarity of symptoms. *Pdash sai back sey* is a new term that has been introduced by HPAI awareness campaigns. Confusion about this new term and its relationship to *dan kor kach* is a primary obstacle to behaviour change in Cambodia. Though communication strategies must be based on sound technical recommendations, they must also learn to think in terms of a local disease taxonomy which may not be concordant with bio-scientific categories. Once introduced through “awareness” campaigns, a new term like *pdash sai back sey* can take on a life of its own. This report concludes that in order to be effective in terms of behaviour change, HPAI communication strategies must monitor and manage *both* terms, *dan kor kach* and *pdash sai back sey*. Effective HPAI communication may entail changing Cambodian backyard farmers’ ideas about *dan kor kach* just as much as *pdash sai back sey*.
- Work with existing explanatory models, encouraging a shift from a “naturalistic” model of poultry death to a “contagion” model. The naturalistic model associated with *dan kor kach* entails a treatment model of response; households seek cures and generally feel helpless. The contagion model of understanding poultry illness much better lends itself to the sorts of prevention measures promoted by FAO and partners.
- Focus on risk-perception, not fear. In FGDs, the degree to which groups reported changes in community behaviour was not correlated with higher levels of awareness or fear, but was rather positively proportional to the degree to which people saw their poultry and families at risk. Explicitly focus on a range of beliefs currently associated with HPAI/*pdash sai back sey*, namely that it is something that only happens elsewhere and that poultry produced and cared for locally are not at risk. “Reality” TV and radio spots might be one way to build risk-perception of HPAI.
- Work with the indigenous sensibility that “hearing is just hearing; seeing is believing.” Again, “reality” TV and radio spots might be a straightforward way of incorporating this recommendation.
- Make the difference between households that rely on poultry as assets and those that rely on poultry for income a primary *consideration* for the development of all communication strategies and IEC materials targeting backyard farmers in Cambodia. When evaluating messages, apply the metrics developed in this report to both sorts of households, those that rely on poultry as assets and those that rely on poultry as a significant source of household income.
- Make gender dynamics within the household a primary *consideration* for the development of communication strategies and IEC materials targeting the backyard farmer in Cambodia. When evaluation messages, apply the metrics developed in this report to men and women to identify potential differences within the household that would affect the adoption of priority behaviours. The development and adjustment of messages should also consider the gender implications or priority messages in terms of burden of responsibility, household

roles and priorities, decision-making power, and effects on economic control of and benefits from household resources.

- Work with pre-existing practices, especially indigenous practices of “separation.” This approach represents the best hope for improving biosecurity in the context of Cambodian farmers’ backyard poultry production systems.
- Connect messages to local (as opposed to technical) rationales. Promote awareness of why the behaviour or investment advocated in a message makes sense from the audience’s point of view.
- Connect messages to local values and priorities, especially family well-being and prosperity.

Controlling AI may involve changing people’s ideas about *dan kor kach* and other diseases as much as about *pdash sai back sey*. If backyard farmers could be convinced that the same changes they are being asked to make in the name of *pdash sai back sey* would ALSO help them protect their assets and investments (family well-being and prosperity) from the much more tangible ravages of *dan kor kach* and other diseases that regularly make their poultry sick and die, there is ample reason to believe many backyard farmers would go to significant lengths to do so. One way to think about it is that the challenge for strategies to prevent A-H transmission of HPAI is to convince people “*pdash sai back sey* is totally new and fundamentally different from *dan kor kach*.” Perhaps part of the challenge for a strategy to control A-A transmission of HPAI is to convince people: “*Dan kor kach* is not natural; it is more like *pdash sai back sey* and spreads from bird to bird (contagion model). If you do the things we recommend, you will not only protect your flocks and families from *pdash sai back sey*, you will also be protecting your family well-being and prosperity from *dan kor kach* and other illnesses that regularly cause so much illness and death in your poultry.” This is an example of raising *awareness of why a measure makes sense from the audience’s point of view*.

It is time for FAO and partners to build on their success in raising general awareness and understanding of HPAI priority messages to begin a “next wave” of communication strategy that better bridges the well-documented gap between awareness and practice in Cambodia. At present, the average backyard farmer encounters the current generation of priority messages as a set of imperatives: “wash hands,” “separate poultry,” “clean the yard,” etc. The findings of this study indicate that people are often “aware” of the messages, in the sense that they understand and can recite them, but they are often *not aware of why, from their point of view, it makes sense for them to do things differently*. Messages need to be better connected with a “local rationale.” This does not mean messages need to be packaged with the technical rationale for the recommendation (which is too often the way these sorts of explanations are handled). Rather, FAO and partners need to focus on how and why measures like ‘separate new poultry from current flocks’ *make sense from the point of view of the target audience*. Lastly, current messages regarding animal-to-animal transmission need to move from a list of mere imperatives and become better linked to local *cultural values and priorities*. For the smallholder farmer in rural Cambodia, values like “protecting humanity from the threat of global pandemic,” or “civic responsibility” are unlikely to have much local traction. Instead, our results suggest “family prosperity and well-being” is by far the best candidate for linking priority messages to a *value* for which people would indeed go to great lengths.

Another objective of this project was to develop a *methodological platform* that could be applied in different national or regional settings to set out to answer similar questions regarding local beliefs and explanatory models relevant to controlling HPAI. In the case of Cambodia, we relied primarily on simple participatory tools like focus group discussions and key-informant interviews, since much of the data that would require other participatory techniques was already available from larger-scale systematic surveys. In addition to assembling a tool kit of participatory techniques for our platform, we also set out to develop a more clearly specified set of *metrics* for measuring understanding, practicability, and different sorts of “awareness” in order to assist in the evaluation and development of Information, Education, and Communication (IEC) materials. The combination of tools, metrics, and anthropological questions assembled in this report represents a preliminary attempt to create a flexible research platform that can be applied in a variety of national or sub-national contexts in order to address a range of communication problems. Of course, this objective

will require applying the methodological platform elaborated in this report to other contexts and adjusting or expanding the platform by developing new tools, metrics, and questions tailored for a broader range of scenarios.

ANNEX 1

TERMS OF REFERENCE

Participatory Learning Communications Specialist AI Programme, Cambodia

The Specialist shall operate under the overall guidance of the FAO Chief Veterinary Officer, the general technical supervision of the Emergency Centre for Transboundary Animal Diseases (ECTAD) Regional Manager based in the Regional Office for Asia and the Pacific (RAP) and the operational supervision of the Chief, Emergency Operations Service (TCEO). The incumbent will be under the direct technical supervision of the team leader of the FAO HPAI Programme in the country and the general operational and administrative supervision of the FAO Representative.

Duties

Through the use of mixed-method participatory learning and action tools and methodologies, the communications specialist will develop a platform carry out through focus group discussions the following:

- Evaluate and document knowledge and awareness of animal to animal disease transmission, with particular focus on poultry diseases and avian influenza with focus groups;
- Examine and document perspectives from cultural norms and values the understanding of avian influenza and its transmission in animals;
- Explore new ideas and discuss in focus groups the acceptability of disease control mechanisms at the village level to contain and stop the spread of avian influenza;
- Identify effective communication channels and information sources for learning;
- Propose improvements to existing communications messages and desired behaviour outcomes developed by FAO, UNICEF, and WHO to reflect the findings from the focus groups discussions;
- Advise on the development of effective IEC material and comprehensive outreach tools for small holder poultry farmers;
- Produce a study paper on the findings of the focus group discussions indicating identified gaps and recommendations on how to most effectively communicate the risks of avian influenza to high risk target groups.

Duty station

Phnom Penh with travel to pre-selected villages in Cambodia identified by FAO in collaboration with NAHPIC

Duration of assignment

30 days (extended to 40 days)

Reporting

Prepare a study paper on knowledge and understanding of avian influenza at the village level and an end-of-mission report articulating achievements, difficulties encountered and recommendations.

Qualifications

Advanced degree in Socio-Anthropology with a focus on communications and transboundary animal diseases. A minimum of three years communications experience preferably in development or emerging infectious diseases. Familiarity with development issues and media in Asia is asset. Maturity, initiative, tact and high sense of responsibility and willingness to develop and maintain harmonious work relations with colleagues of different national and cultural backgrounds. Computer

literacy and ability to use effectively word processing (Windows, Excel, Word) and modern communication tools (Internet, LAN, email, Website surfing and related software). Gender awareness and knowledge of critical gender issues to be mainstreamed in agricultural, rural development and forestry policies, strategies, programmes and projects.

Essential skills

Excellent command of English. Very strong writing, analytical and communication skills. Ability to guide and facilitate focus group discussions with villagers in remote locations and articulate outcomes is fundamental.

Security

Before starting the mission/travel, the consultant must find out in what security phase the country of assignment is in and what this implies for his/her own security. As soon as he/she arrives at the duty station, through the FAO Representation or directly he/she must contact the designated UN Security Officer to be briefed on all the recommended security measures. In case this procedure is not properly applied, the consultant may not be covered under the Malicious Acts Insurance Policy.

Health

All consultants and staff members on duty travel must accept responsibility for their health and well-being as part of their official duties and also on their return. The following are the main responsibilities of the traveller:

- seek health advice, preferably four to six weeks before travel;
- comply with recommended vaccinations and other prescribed medication and health measures;
- ensure health precautions are taken before, during and after travel;
- obtain a physician's letter pertaining to any prescription medicines, syringes, etc., being carried;
- take precautions to avoid transmitting any infectious disease to others during and after travel;
- report any illness on return, including information about all recent travel; and
- respect the host country and its population.

ANNEX 2

SAMPLE FOCUS GROUP INSTRUMENT – BACKYARD FARMERS

Greeting
Introductions
Consent

How many of you here own animals? Please raise your hands.

(If anyone does not raise their hands ask them *"You don't have any animals? No chickens even?"*
If no animals, **Why not?**)

Now I would like to go around in a circle and have everyone tell me what animals they have.

(Go around to each participant and have them quickly list the animals they own. Follow up with questions if necessary. *The point is to get everyone to say something* and also to get a sense of how the group compares to the larger samples of the KAP studies.)

How many of you have had animals that were sick or even died since the last Khmer new year? Please raise your hands.

Go around to those who raised their hands.

Please tell me a little bit about which of your animals got sick.

Why do you think they got sick?

(If they say, "I don't know," it might be useful to ask if anyone has any opinions about why the animal got sick. Some of the richest data will come from getting people to discuss their ideas with one another.)

What did you do? Who did you tell? Did you ask anyone for help? Who? What did they tell you? What happened?

(If many people raised their hands it is only necessary to go through these questions with three people before we focus in on poultry.)

It seems almost everyone here has chickens or ducks. Have any of you had poultry that were sick or died since the last Khmer New Year?

Are there times of year when it is common for many of your chickens to get sick or die? When does this happen? What months? Is it the same for ducks?

Why do chickens get sick or die during this time of year? Why do ducks get sick or die? Is it different for chickens and ducks?

When your chickens/ducks die, is it usually just one or two at a time or do more die at once?

What do people usually do when their chickens die?

(Pick someone who raised their hand to say they had recent sick/dead chickens.)

You raised your hand to say you had sick or dead poultry since the last New Year, could you tell us a little bit about what happened?

(To person) **Why did the chickens/ducks get sick?**

(To everyone) **Does anyone have any ideas?**

(To person) **What did you do to help your chickens when they were sick?**
(If nothing ask same question to someone else who had recent sick chickens)
(If something then follow up with questions like: **Is that what you usually do? Is this a common thing for people to do?**)

What else to people do when their chickens or ducks get sick? Is there anyone you go to seek help or advice from when your poultry are sick? Who?

What did the person tell you or give you to help?

Is it different for poultry than for other animals?

What do people usually do when one of their chickens or ducks dies?

(If "bury it," then ask **"Why bury it?"**)

(If "eat it" then ask **"Why eat it? Is it safe to eat a dead chicken/duck?"**)

(If "throw away" then ask **"Where would they throw it? Why throw away?"**)

(If *no one says "eat it"* then ask **"Would anyone eat the dead poultry? Why?"**)

Would most people tell their neighbours if their poultry died? Would they tell the village chief? Who else would you tell?

(I would like to find out if people are aware of Village Animal Health Workers without asking them directly. If no one mentions VAHW then we should ask if participants are familiar with them.)

How many people here keep their chicken or ducks fenced in at all times? How many people here let their chicken and ducks walk around?

(If someone says they keep their poultry fenced in, we should ask if we can go and see how they have things set up after the focus group. **May we see later?**)

Which is better?

Why?

Where do they get their food?

What do you feed your chickens? What do you feed your ducks?

Who takes care of the chicken and ducks in your family? What do the children do?

What do you do? What does your husband/wife do?

Who is responsible for cleaning up the poultry faeces? What do you do with the faeces? Why?

Do you generally use your poultry to sell or do you use it for food? Who here sometimes eats their chickens? When do you do this? Who here has sold chicken/ducks in the last month? How do you sell your poultry? What happens?

Do you take them to market yourself or does someone drive around to collect them? Is there a time of year when prices are higher? When are prices lower?

Does anyone know if any of their poultry or poultry products ends up in markets in Vietnam/Thailand/Laos? Do you ever buy or sell poultry or eggs across the border? How does that work?

Would you be able to sell a chicken or duck that was visibly sick? Would anyone buy it?

Do people usually kill their chicken/ducks for food, or do they wait for a chicken or duck to die before eating it? On what occasions would people slaughter chickens or ducks for food?

Who here has heard of Avian Influenza (pdash sai back sey)? Please raise your hands.
(Again, if people don't raise hands probe them to see if they have heard of AI)

What do you know about AI? What is AI?

Where do you think it comes from? Can your chickens or ducks get sick from it? How do you think chicken and ducks get AI?

**What can you do to prevent your poultry from getting sick with AI?
Do you think you would know if your poultry were sick? How? What are the symptoms?**

Would you tell anyone if you thought your poultry had AI? Why? What do you think would happen next?

Can humans get AI from chickens? How about from ducks? Do you think you could get AI from your poultry? Why? Why not?

How do humans get AI? What do you think? What can people do to keep from getting AI?

Have you heard of other villages in Cambodia where there were AI outbreaks? What did you hear happened? Do you worry about outbreaks in your village? Why or why not?

Does anyone have any questions about anything we discussed here today?

Distribute posters, cover text, and assess awareness, understanding, and practicability of messages.

HPAI education by VAHW Trainer

ANNEX 3

SAMPLE FOCUS GROUP INSTRUMENT

– OUTBREAK AREAS

Greeting
Introductions
Consent

How many of you have had animals that were sick or even died since the last Khmer new year? Please raise your hands.

Go around to those who raised their hands.

Please tell me a little bit about which of your animals got sick.

Why do you think they got sick?

Ask if anyone has opinions about why the animal got sick.

What did you do?

Did you seek help from anyone?

Who?

Who did you tell?

Have any of you had poultry that were sick or died since the last Khmer New Year?

Could you tell us a little bit about what happened?

(To person) **Why did the chickens/ducks get sick?**

(To everyone) **Does anyone have any ideas?**

What did you do with your poultry when they were sick?

Did you seek help from anyone? Who? What did they tell you? What happened?

Have you ever gone to see “*neak lok thmam pet*” regarding sick poultry? Please raise your hands. What did the person tell you?

Do you tell people when your poultry are sick or have died? Why do you tell? If no, why not?

Would you tell your neighbours if some of your poultry died?

Would you tell the village chief?

Who else would you tell?

What do people usually do when one of their chickens or ducks dies?

If “throw away” then **Where would they throw it? Why?**

If “bury it,” then **Why bury it?**

If “eat it” then **Why eat it?**

Is it safe to eat dead poultry?

Is it common for people to eat dead poultry? Why?

Do people do anything to protect themselves when they eat dead poultry? What do they do?

Do people ever wait for a chicken or duck to die before eating it?

If you had a sick duck or chicken, what would you do with the rest of your poultry flocks?

Would you be able to sell a chicken that was visibly sick? Would anyone buy it?

How many people here keep their chicken or ducks fenced in at all times? How many people here let their chicken and ducks walk around?

- **Which is better, fenced in or free-range?**
- **Why?**
- **Where do the poultry get their food?**

What do you do with the poultry faeces? Why? Who cleans them up?

Do you generally use your chickens or ducks to sell or for food?

Do people often kill their poultry for food? Why or why not?

Who here has heard of Avian Influenza (pdash sai back sey)? Please raise your hands.
(Again, if people don't raise hands probe them to see if they have heard of AI)

What do you know about AI? What is AI?

Where do you think it comes from? Can your chickens or ducks get sick from it? How do you think chicken and ducks get AI?

**What can you do to prevent your poultry from getting sick with AI?
Do you think you would know if your poultry were sick? How? What are the symptoms?**

Would you tell anyone if you thought your poultry had AI? Why or why not? What do you think would happen next?

Last year there was an outbreak of Avian Flu in (or near) this village. Who here remembers that?

((Pick a person))) Could you tell me what you remember? What happened?

Were your poultry killed? If not, Do you know people whose poultry was killed?

- **Why do you think they killed the poultry?**
- **What were you told were the reasons?**
- **What did you think was happening?**

Does anyone remember anything else? Did anyone here have a different experience?
(Go around and ask a few people)

How did you find out about the outbreak?

Did anyone tell you what was happening? What did they tell you?

Where did you get most of your information about what was happening?

Did you see anything with your own eyes?

Who did you ask when you were not sure what was going on?

Who do you trust to tell you the truth about what was happening? Did anyone tell you anything you did not believe?

Can humans get AI from chickens? How about from ducks? Do you think you could get AI from your poultry? Why? Why not?

How do humans get AI? What do you think? What can people do to keep from getting AI?

Did you hear that a human had become sick with AI? How did you find out? How do you think that person got AI?

What do you think caused the outbreak of avian influenza in poultry here? Does anyone have any ideas?

Was anyone compensated for the killed poultry? Do you think people should have been compensated? Do people talk about this? What do they say?
(If anyone has had poultry that were culled/killed) **How did it affect your family's household finances?**

When you first heard about the outbreak, what did you do? Were you afraid? What exactly were you afraid of?

Are people afraid it will happen again? Why?

Do you think people do things differently since the outbreak? Have people changed their behaviours because of the outbreak? What is different?

Would you tell anyone if you thought your poultry had AI?

If yes, **Why would you tell?**

- **Who would you tell?**

If no, **Why not?**

Do you think people have poultry that they know is sick with AI but they don't tell anyone? Why wouldn't they tell?

Do people worry that they might get in trouble with their neighbours if they tell the authorities there is an outbreak of AI?

Is there any other reason why someone wouldn't tell the authorities about sick or dying poultry? Tell me more.

Does anyone have any questions about anything we discussed here today?

Distribute posters, cover text, and assess awareness, understanding, and practicability of messages.

HPAI education by VAHW Trainer

ANNEX 4

SAMPLE FOCUS GROUP INSTRUMENT

– REMOTE COMMUNITIES

Greeting
Introductions
Consent

How many of you have had animals that were sick or even died since the last Khmer new year? Please raise your hands.

Please tell me a little bit about which of your animals got sick.

Why do you think they got sick?

What did you do when an animal got sick? Did you seek help from anyone?
Who? How did they help?

Many of you here own chickens and/or ducks.
Have any of you had poultry that were sick or died since the last Khmer New Year?

Are there times of year when it is common for many of your chickens to get sick or die?

When does this happen? What months? Is it the same for ducks?

Why do chickens die during this time of year?

When your chickens die, is it usually just one or two at a time or do more die at once?

Why do you think sometimes more than one chicken dies at a time?

What do people do when their chickens are sick?

(PICK SOMEONE WHO REPORTED DEAD POULTRY SINCE KHMER NEW YEAR)
You raised your hand to say you had sick or dead chickens since New Year, could you tell us a little bit about what happened?

Why did the chickens get sick?

Does anyone have any ideas?

What did you do to help your chickens when they were sick?

Is that what you usually do? Is this a common thing for people to do?

What else do people do when their chickens or ducks get sick?

Is there anyone you go to seek help or advice from when your poultry are sick?
Who do you go to for help?

Has anyone here ever gone to see *"neak lok thmam pet"* regarding sick poultry?
What did the person tell you?

Would most people tell their neighbours if their poultry died?
Would they tell the village chief?

Who would you tell if one or many of your poultry was sick or died?

What do people usually do when one of their chickens or ducks dies?

- (If "bury it," then ask **"Why bury it?"**)
- (If "eat it" then ask **"Why eat it? Is it safe to eat a dead chicken/duck?"**)
- (If "throw away" then ask **"Where would they throw it? Why throw away?"**)

Does anyone ever eat chickens or ducks that have died?

WHY?

How many people here keep their chicken or ducks fenced in at all times?

How many people here let their chicken and ducks walk around?

Which do you think is better, fenced-in or free-range?

Why?

What are the advantages of each?

What are the disadvantages?

What do you feed your chickens? What do you feed your ducks?

Do you use commercial feed? Why or why not?

Who takes care of the chicken and ducks in your family? What do the children do?

What do you do? What does your husband/wife do?

Who is responsible for cleaning up the poultry faeces? What do you do with the faeces?

Why?

Do you primarily use your chickens / ducks for sale or do you use them for food?

On what occasions do you eat chickens / ducks?

On what occasions do you sell chickens / ducks?

How do you sell your chicken? Ducks? Do you take them to market yourself or does someone drive around to collect them?

Would you be able to sell a chicken or duck that was visibly sick? Would anyone buy it?

Do people often kill their chicken for food, or do they wait for a chicken or duck to die before eating it?

Has anyone hear heard of a new disease in the last couple of years that is affecting chickens and ducks?

What have you heard? What do you know about this disease?

How did you first hear about it?

What did you hear? Is there anything you are supposed to do to protect your chickens / ducks from this disease? Can humans get this disease?

Who here has heard of Avian Influenza? Please raise your hands.

What do you know about AI? What is AI?

Where do you think AI comes from?

Can your chickens get sick from it?

Can ducks get sick from it?

How do you think chicken and ducks get AI?

What can you do to prevent your poultry from getting sick with AI?

Do you think you would know if your poultry were sick? How? What are the symptoms?

Would you tell anyone if you thought your poultry had AI? Why?

Can humans get AI from chickens? How about from ducks?

**Do you think you could get AI from your poultry?
Why? Why not?**

How do humans get AI? What do you think? What can people do to keep from getting AI?

Have you heard of other villages in Cambodia where there were AI outbreaks? What did you hear happened? Do you worry about outbreaks in your village? Why or why not?

Does anyone have any questions about anything we discussed here today?

Distribute posters, cover text, and assess awareness, understanding, and practicability of messages.

HPAI education by VAHW Trainer

ANNEX 5

VIDEOGRAPHER'S EXPLANATION OF TECHNICAL OBSTACLES

WHY IT IS IMPOSSIBLE TO FILM COMPLETE FOCUS GROUP DISCUSSIONS

by Inazio Zurutuza

TIME

Recording 20 whole FGDs would mean $20 \times 1,5 \text{ hours} = 30 \text{ hours}$ of raw material to be transferred from HDV to a viewable format, DVD in this case, taking around 6 hours to complete each FGD. This means that from the 45 days we have to complete the assignment, the first 25 would go for field work, and around 15 others to treat this material. It would be impossible to view the raw material, translate quotes, make the Edit Decision List, design the cover, discuss the script, record voice overs, and edit and output the documentary in 5 days. Even 20 days might not be enough.

INCOMPATIBILITY of SHOTS

If we were to record whole FGDs, we would use a wide long shot to cover the whole action. These long wide shots would not be suitable for the final product we want, where we would like medium or close ups of farmers explaining their perceptions on AI, without the distraction of 30 other people and kids moving and shouting around. We would also like shots of the anthropologist listening, the trainer explaining, situation shots, etc, etc. Also, these long wide shots would give us a really boring product, which we could avoid by shooting multicamera, using two cameras, but this would not be possible for time matters. The time needed to process these recordings into DVD would triple because of editing needs.

SOLUTIONS

If the only purpose of recording the whole FGDs is for archival/referral material, the technical solution I'd suggest would be using a sound recorder with a nice omnidirectional mic. If video was a must, I would suggest using cameras that record on DVD format. They are cheap and DVD readers are available everywhere, but the output product would not reach broadcast quality. We would have to decide which way to go, depending whether our final goal is to have archived material or a documentary on AI perceptions, as for the available length of the project, these two goals are incompatible. For this project, we have concentrated on getting shots for the documentary, but have also recorded 4 whole FGDs (at the expense of missing interesting shots and quotes for the documentary).