

Ethnovideography:

*Digital Video-Based
Indigenous Knowledge System*

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SEAMEO Regional Center for Graduate Study and Research in Agriculture

CIP Users Perspectives With Agricultural and Rural Development

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The SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA) is one of the regional research and training centers of the Southeast Asian Ministers of Education Organization (SEAMEO), an inter governmental body founded in 1965 to promote cooperation among Southeast Asian Nations through activities in education, science and culture. SEARCA'S programs are designed to accelerate sustainable agriculture and rural development through human resource development, research, technology transfer, policy support, consulting, and knowledge dissemination and exchange. It is hosted by the University of the Philippines Los Baños (UPLB), which is based in Laguna, Philippines. It is supported by contributions from SEAMEO member and associate member countries states, other governments, and various international donor agencies.

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for
Dr. Gordon D. Prain

Foreword

As this book suggests, knowledge management or KM is not exclusively concerned with contemporary, cutting-edge knowledge that are applied to current problems. It likewise covers indigenous knowledge that signify the wisdom of our forefathers and local knowledge that represent the innate common sense of the farmer, the fisher folk, and the housewife. KM studies ways and means by which both scientific and indigenous or local knowledge may be stored, shared, and reused – in other words, maximized – through information and communication technologies.

The SEAMEO Center for Graduate Study and Research in Agriculture is a proven exponent of knowledge management of both kinds. It was the first among international development agencies in the Southeast Asian region to establish a Knowledge Management Program (KMP). From 1993 to 1996, SEARCA served as the major node in the Asian Plant Information Network for Medicinal Applications Project (APINMAP), which produced a factual database of medicinal plants used by indigenous peoples in Asia. In 1997, the Center established the ASEAN IPM Knowledge Network, which covers both scientific and local knowledge. Now, SEARCA, in collaboration with ASEAN and the Kingdom of Brunei Darussalam, is embarking on an ambitious knowledge networking project that would link the national agricultural research centers of the ten Southeast Asian countries.

Prior to assuming his current post as Vice Chancellor for Research and Development of the U. P. Open University, the author, Dr. Alexander G. Flor, served as the first Program Officer of SEARCA's Knowledge Management Program. One of KMP's key result areas during his incumbency was the development and prototyping of computer aided indigenous knowledge systems. Combining the results of earlier studies on indigenous knowledge systems that he conducted through grants from the International Potato Center's Users' Perspectives With Agricultural and Rural Development (CIP UPWARD) with KMP's current research and development efforts, Dr. Flor designed and developed a system of capturing and storing indigenous knowledge through the convergence of digital video and work station technology.

SEARCA takes pride in sharing this system with agencies all over Southeast Asia involved in indigenous and local knowledge.

RUBEN L. VILLAREAL
Director

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Finally, I would like to express my sincere gratitude to Dr. Gordon D. Prain and Dr. Dindo Campilan, former and current Directors respectively of the CIP Users' Perspectives With Agricultural and Rural Development (UPWARD) for their intellectual, moral, and material support in the development of this methodology. In this context, ethnovideography owes its existence to CIP-UPWARD.

ALEXANDER G. FLOR

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Chapter 1.

Definition of Ethnovideography

Instructional Objectives

After studying this chapter, the reader should be able to:

1. define ethnovideography;
2. discuss the beginnings of ethnovideography; and
3. describe its use in the study of indigenous and local knowledge.

Chapter Outline

1. Introduction
 - 1.1. Participatory Documentation
 - 1.2. Visual Anthropology
2. Definition
3. Illustrative Cases
 - 3.1. The Naga Tribe of Western Java
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INTRODUCTION

Participatory Documentation

The last weekend of February 1986 included a Sunday unlike any other. Crowds were gathering by the hundreds at the Epifanio Delos Santos Avenue (EDSA), one of the major thoroughfares of Manila, as an expression of support to two rebelling leaders of the Philippine defense establishment.

Bob and Emmy Garon decided to leave for EDSA immediately. They brought their newly purchased Sony V-8 PRO Camcorder with them thinking that it may come in handy. Besides, Bob wanted to practice his video shooting. And indeed their newly consummated investment paid off in the footage that they gathered during the next two days.

After some lengthy shots, Bob would shuttle back and forth the newly commandeered rebel television station to bring to the homes of thousands of television viewers his freshly recorded images and sounds of Manila during those fateful days. Through Bob and Emmy's video documentation most of the TV-viewing public witnessed the events a few hours after these occurred. Some of the most inspiring scenes - a man approaching a tank armed only with a rosary; General Fidel Ramos jumping in jubilation with the news that Marcos fled; seminarians parading down EDSA with the image of the Virgin Mary - were highlighted. Some of Bob Garon's footage was even used in a dramatic music video that was telecast regularly in all television stations for the following weeks.

Bob and Emmy Garon were *participants* in the EDSA event. Yet, they were also *documentors* of that event. The Bob and Emmy Garon experience was among the first of many that ushered in the active use of small-format video in social transformation and development work. Currently, the widest application of small-format video in development is participatory documentation.

Visual Anthropology

The ability of video, particularly digital video, to record so-called "slices of reality" is unsurpassed even by film. Participatory documentation, however, adopts a perspective unique from that of the conventional video production. This perspective, called visual anthropology, is illustrated in the following statements:

- In video documentation, there should be no staging, no scripting of what is being documented even for the sake of expediency and convenience.
- An appreciation of the *cinema direct* or *cinema verite* school of thought leads to a production process that deviates from the conventional. No attempt is made to simulate studio conditions while shooting. Form is sacrificed over substance.
- Occasionally, these video recordings become subjects of criticism. Nit-picking comes easy to colleagues when it comes to actuality-based productions. An overexposed background, faulty framing, lack of inserts and the preoccupation to fixed shots usually

end up as subjects of ridicule. However, such nit-picking is unfair considering the constraints encountered by the documentor who has done everything possible to get a good shot without sacrificing accuracy and authenticity. The documentor should comfort himself with the thought that such comments are borne out of ignorance of the production process - conventional and otherwise. A genuine professional would appreciate the lengths that a documentor resorts to just to get a tolerable shot.

Ethnovideography adopts the visual anthropological perspective.

DEFINITION

Ethnovideography is defined as the study and analysis of groups or group representatives using small format video documentation techniques. In other words, it is ethnography through video, preferably digital video. The earliest entry on ethnovideography in the literature is a three-paragraph section in an Asian Development Bank report by Guerrero et al. (1992):

Ethnovideography is a research procedure developed at the UPLB Institute of Development Communication, which makes use of small-format video-generated non-alphanumeric data for social analysis. This procedure entails video documentation of five types of subjects: people; places; processes; events; and social problems. On-camera interviews and other actualities are encouraged.

... the merits of ethnovideography lie in its spontaneity and its ability to capture "slices of reality". It underscores the advantages, superiority and utility of audio-visual data over alphanumeric data particularly in policy research and social interventions.

The main instrument of ethnovideography is the unobtrusive yet high-quality small-format video camera. Certain techniques are prescribed to ensure trustworthiness of recordings for social analysis. Specific steps are likewise required from the ethnovideographer such as site and subject reconnaissance, log book utilization, review and cataloguing of shots. The products of this procedure are sets of documentation sequences and short video presentations on the subjects. (p. 22)

Since 1992 it has been applied in several research undertakings at the University of the Philippines Los Baños College of Development Communication including two in Indonesia (Hardono, 1993 and Maya, 1993) and one in Sri Lanka (Bandara, 1994). Many of these dealt with indigenous knowledge.

In the Philippines, Cagampang (1992) and Matela (1992) conducted separate studies on the indigenous agricultural knowledge of the Ibaloi tribe in Benguet province. In Indonesia, Hardono worked on the indigenous knowledge of the Naga tribe.

ILLUSTRATIVE CASES

The Naga Tribe

With an M3 Panasonic VHS camcorder and a Sony EVO 9100 Hi 8, Hardono and I descended upon the steep valley straddled along the winding highway leading to Tasik Malaya, West Java. Five hundred meters below us was the Ciwulan River. Nestled between the river and the steep incline was the village of Kampung Naga, home of Indonesia's Naga tribe.

A graduate student of development communication at UPLB, Hardono was conducting a thesis on indigenous knowledge systems. He chose Kampung Naga as the subject of his inquiry. Early on in that site reconnaissance expedition, I was convinced as his academic adviser that he made the right choice.

Although practicing Muslims, Hardono's research footage later showed that the members of the Naga tribe still worship their ancestors. Once a year they perform a ritual wherein all village males don white robes after bathing in the Ciwulan, then ascend to the burial grounds of their forefathers to pay homage. After this ritual follows a collective feast in the village hall, all of which were documented on VHS and Hi 8 tapes.

For centuries, the way of life of the Naga tribe has been guided by the wishes, or the dictates if you will, of their ancestors. The village itself is fenced. Nobody is allowed to build a house outside the perimeter. Land within the boundaries of the village is owned communally, not privately. Two sides of the perimeter facing the Ciwulan is barricaded by a wall, an ingenious structure of smooth rounded stones that serve to prevent surface run-off and erosion. On the side that faces the slope, it is prohibited to cut trees.

The houses in the village share a common architecture, the roofs are made of *aren*, a sturdy fiber from the sugar palm that could serve such a purpose for twenty years. Rows of houses are terraced using the same indigenous design that prevents erosion in the riverbanks.

On that day, as Hardono and I approached the village entrance, we encounter what appears to be a moat. Upon closer examination and after several video shots, however, we find that it doubles as a fishpond. On top of this pond, we find small huts where village women mortar their rice. The hull, bran and other waste materials fall through the widely spaced floor planks to feed the fish below. Only traditional varieties of rice are planted within the farms bounding Kampung Naga. All in accordance to the wishes of their ancestors.

The recorded indigenous knowledge of the Naga tribe, including their communal orientation, practices and prohibitions has been theirs since time immemorial. However, there is a curious yet pronounced environmental agenda in all these. The maintenance of village boundaries serves as a model for land use. Their housing materials are exemplars of biodegradability. Certainly, the *aren* is more environmental friendly than the galvanized iron sheet in terms of material extraction and disposal. Prohibitions on cutting trees in the mountainside are unquestionably sound, particularly since the village gets its drinking water from here. Their rice-fish farming system is an epitome of recycling and waste utilization.

Kampung Naga is just one of the many examples wherein we find sound environmental wisdom in indigenous knowledge.

The Higaonon-Talaandig Tribe

Mt. Kitanglad is one of the highest, most imposing peaks in Central Mindanao. It is home to the indigenous tribes of Bukidnon among which is the Higaonon-Talaandig clan. While doing ethnographic field work in the area, we interviewed one of their leaders, Datu Digkamarahan. We inquired about their farming practices -- their planting seasons; their rituals; and their use of fertilizers and pesticides.

During on camera interviews, the *datu* explained that they always adhere to the *toman* or the planting season. The *toman* is usually determined by the phases of the moon. They engage in rituals before planting, such as sacrificing a white chicken and sprinkling its blood over the soil. They also take off all their clothes when planting the first few hills of their crop. They never use fertilizers or pesticides.

The logic of these practices escapes many who do not share the Higaonon-Talaandig worldview. However, as in the case of the Naga tribe, these practices are steeped in environmental wisdom.

Regular adherence to the *toman* prescribed by their forefathers prevent them from indulging in mono-cropping, which is chiefly responsible for uncontrolled pest populations. The natives plant mostly for their needs with some surplus to sell in the market. Hence, pesticides and fertilizers become unnecessary. Datu Digkamarahan believes that outbreaks of pest infestation are caused by the modern farmer's greed. It is the modern farmer who plants as much as he can, any time he can. This scale and frequency of planting has brought about insect infestation and robbed the soil of its nutrients. Their forefathers were indeed wise in adhering to the *toman*.

Local Knowledge in Mt. Makiling

The rituals serve yet another purpose. To discuss this, we move to the Southern Tagalog Region in Luzon approximately two thousand kilometers northwards, home of the *kaingineros* of Mt. Makiling.

It may sound paradoxical but based on video recordings of interviews and rituals, traditional Mt. Makiling *kaingineros* exhibit a form of conscientiousness seldom found among lowland farmers. Like their counterparts in Bukidnon, they engage in a variety of rituals before planting any crop. These rituals are called *igba*.

As recorded on video footage, there is an *igba* for planting papaya, one for planting jackfruit, another one for planting banana, still another for planting sweet potato. The *igba* for planting papaya entails a peculiar incision done on the seedling during transplanting. Planting jackfruit involves children climbing over the farmer as he plants. Planting banana, on the other hand, is accompanied by chants. The ritual for planting sweet potato in Mt. Makiling is similar to that of Mt. Kitanglad. The farmer plants the first few hills of his crop naked.

We can never be certain of the reason for these rituals or *igbas*. However, we can hypothesize that rituals serve the purpose of reminding the farmers that they are part of a larger whole, that what they do is something that goes beyond themselves and that others will be affected by their actions. Farmers who sincerely practice these rituals get into the proper mindset. They become respectful of what they do, how they do it, and of the objects that they encounter while performing the action. Their minds become prepared for an activity of great consequence. These rituals lead to purposive action that makes the farmer relate intimately to nature or his environment, for that matter.

Chapter 2.

Ethnovideography as Research Methodology

Instructional Objectives

After studying this chapter, the reader should be able to:

1. enumerate the requirements of methodology;
2. discuss the epistemology of ethnovideography;
3. discuss the theory behind ethnovideography; and
4. describe its procedure.

Chapter Outline

1. Requirements of Methodology
2. Epistemology
 - 2.1. The Nature of Data
 - 2.2. Concerns
3. Theory
 - 3.1. Cinema Direct
 - 3.2. Structural Analysis
4. Procedure
 - 4.1. Instruments
 - 4.2. Protocol

REQUIREMENTS OF METHODOLOGY

From February to September 1992, I conducted a short study under an UPWARD grant, which explored the use of small-format video for research. Participatory documentation techniques adopted from the USC-Center for Visual Anthropology and the *cinema direct* school of documentary filmmaking were utilized in this study. It resulted in a thirty-minute video documentary entitled *Users' Perspectives on Sweet Potato Technology*, of which the Assembly Guide is contained in Appendix A. The effort likewise contributed substantially to the set of procedures used in tapping small-format video (VHS, Super VHS, Video 8, Hi-8, and digital formats) for process documentation and participatory research.

This chapter explores the use of small-format video, specifically, digital video for research in two ways: firstly, by addressing the epistemological concerns and issues that crop up in practice; secondly by a refinement of existing procedures leading toward a development of what may be referred to as ethnovideographic methodology.

The epistemological concerns and issues revolve around the following: the validity of the assumptions regarding the nature of audio-visual data; the trustworthiness of video footage; the circumstances surrounding the recording of video footage; the use of audio-visual (external, artifactual and behavioral) indicators; the ethics of video documentation; the feasibility of user-managed video documentation; and the tendency for editor interference. On the other hand, refinement of existing procedures entailed establishing the theoretical bases of ethnovideography as well as outlining the protocols, instruments and utilization guidelines.

Can ethnovideography be considered a legitimate social science research methodology? By definition, a methodology requires three things: clearly stated assumptions about the nature of knowledge; a theoretical base; and a set of tried and tested procedures.

One might ask how ethnovideography can claim to be a methodology when ethnography is not even universally recognized as such? To some circles, ethnography is merely a set of procedures. This contention is at best debatable. Perhaps, attempts among ethnography proponents to collate their constructs into a coherent whole have not been adequate enough. However, this possible constraint should hardly become the basis of any conclusions on the subject. Ethnovideography satisfies the three requirements of a methodology, namely: epistemology; theory; and method.

EPISTEMOLOGY

Is ethnovideographic data trustworthy? Can digital video footage serve the purposes of research? Can these generate valid indicators? What circumstances surrounding digital videography presents epistemological contradictions? Moreover, is it ethical to video-record subjects of research?

The Nature of Data.

Data is defined as a series of characters to which we assign values. However, ethnovideographic data do not take the form of alphanumeric characters but of sounds and images, in other words, audio-visual records. It is in this distinction between alphanumeric data and audio-visual records that ethnovideography claims superiority over other forms of research. For all intents and purposes, alphanumeric data are symbols. The basic data-unit of ethnovideography is the *shot*. Containing sounds and images, shots are not merely symbolic but are recordings of *reality*, thereby more trustworthy and reliable.

Although assigning quantitative or qualitative values to characters serves as aids to measurement (thus limiting errors of interpretation to a large extent), symbols in whatever form are still subject to distortion and misreckoning. Additionally, once observations are translated into data, they are removed from their context that all too often determines the observations themselves. Ethnovideography records the context along with the event or phenomenon observed. In other words, the researcher does not sift through visual and aural stimuli to retrieve data. His observations are less subject to the processes of selectivity (i.e., exposure, perception, and retention) that we are all susceptible to.

For instance, quantitative data generated by a survey instrument would give us values from which we base our conclusions. These values, however, do not reflect (and at times are intentionally divorced from) the context within which these observations were made. In the other extreme, qualitative data found in an anthropologist's journal have already been processed in the researcher's mind. It then appears that both types of data are less reliable and trustworthy than an audiovisual recording of a phenomenon, a subject or a valid testimonial by a subject.

Some scientists believe that data per se cannot be judged superior nor inferior. However, social scientists make distinctions between binomial, ordinal, and interval data the latter being the more accurate, useful and valid. In the same manner, we believe that audiovisual recordings are potentially more accurate, useful, valid and thus superior to alphanumeric data.

Concerns

Video Footage as Research Tool. In the past two decades, a considerable amount of importance has been assigned to documentation. In fact, research methodologies such as process documentation have been generated by this trend. To many social scientists, video is the best means of documentation available. Hence, its utility as a research tool is hardly questioned. However, some scientists are questioning the circumstances surrounding the actual generation of video footage, which pose an epistemological contradiction.

Traditionally, a videographer prefers to execute a shot under controlled conditions, i.e. good lighting, stable camera, antiseptic sound, proper timing and appropriately framed subject. These conditions have to do with technique and are necessary for a *good shot*. However, this control prerequisite presents a contradiction similar to the Heisenberg Uncertainty Principle,

i.e., the object (phenomenon or subject) observed is changed by the act of observation itself thereby negatively affecting the reliability of the findings. Ethnovideography recognizes and appreciates this concern. The succeeding section on theory is devoted almost exclusively to this subject.

Another concern is that of generating valid research indicators that may be satisfied by audiovisual data. Certainly, audiovisual indicators are not unheard of in the social sciences. In ethnovideography, we may categorize these indicators into four: external, artifactual, behavioral or testimonial. External indicators are physical changes within a community, a group or an individual. Observed physical changes in community infrastructure, ecosystem profile and lifestyle are examples of these. Additionally, this category covers events or comparisons of events.

Artifactual indicators may take the form of clothing, furniture, artwork and others. Changes in these can easily be video documented. Behavioral indicators cover behavioral changes within the community, groups or individuals; non-verbal communication; dance and body movement. These are easily manifested and may be video documented. Testimonial indicators include individual testimonies and verbal group consensus.

Ethical Questions. In the seventies, award winning German filmmaker Leni Riefenstahl spent eight months in an isolated village in Africa filming a little known tribe called the Nuba. Her extraordinary collection of film footage garnered praise and criticism alike. Critics questioned the ethics of filming the Nuba without the tribe knowing what a film was and for what purposes it was being made.

Blacking (1984) echoes this concern in the following statement:

Pictures of non-verbal communication and of the spatial layout of people can enhance analyses of rites and ceremonies. They can serve a useful purpose by attracting more general attention to the work of social anthropologists and bring closer to readers the life-styles of different peoples. But the intention to enlighten can also misfire: pictures of an alien people can quickly reinforce stereotypes and invoke prejudiced reactions to an account of, say, religious, political, or economic action that might otherwise be understood as similar to situations in a reader's own society. Social anthropologists have a moral obligation not to stress "the colorful lives of exotic peoples"... (pp. 199 - 200).

The ethics of using video for the in-depth qualitative study of small groups is indeed a valid concern. Many indigenous tribes in the Philippines including the Aetas and the Dumagats refuse to have their rituals video documented. Kaingineros in Makiling would rather not have their animals photographed. These refusals stem from fear of sacrilege, bad luck or even ridicule from the outside world. In cases such as these, the ethnovideographer should respect the wishes and the privacy of his subjects. He should strictly adhere to the same code of ethics that bind other field researchers particularly since he is trained to document events unobtrusively.

User-Managed Video Documentation. User-managed or, more appropriately, subject-managed documentation is part and parcel of ethnovideography. This approach, which is called *video-empowerment* at Los Baños, should have been fully explored if it were not for the unavailability of appropriate equipment not to mention the appropriate conditions (i.e., lack of electricity, etc.).

Editor Interference. In any communication material, the editor determines what makes it to the final copy. In video, the editor is charged with assembling the video presentation and to determine the cutting points from the available raw material. His decisions are not only based on subject-matter considerations but on media-based decision-parameters as well. For instance, point-of-view continuity would be an important criteria in determining editing points.

With regard to editor interference, the same basic questions raised by researcher bias are encountered in ethnovideography. One could argue, of course, that this boils down to researcher integrity. However, it is a valid concern particularly when the interference is medium-, hardware- or process-related. The ethnovideographer should make an extra effort not to let these considerations color his material.

THEORY

As mentioned earlier, experiences in the past two decades have underscored the potential contributions of video in undertakings such as field research, community mobilization, project monitoring and evaluation. Technological innovations have expanded the users of video to include researchers, community organizers and development experts.

The use of video as a research tool presents an innovation in conventional documentation procedures. Small format video (VHS, Super VHS, V-8 and Hi-8 formats) in general and digital video in particular, are very appropriate for field documentation purposes. Hardware that employ these formats are small, durable and lightweight - ideal for rural conditions. They are less stringent in recording requirements allowing for quicker response and timing. Through small-format or digital video, unobtrusive documentation and direct recording of insights and perspectives are made possible.

Digital video recordings provide the most realistic, unexpurgated field documentation available. They bring accurate depictions of rural conditions and perspectives providing policy makers and officials insights that may otherwise be lacking in conventional reports or write-ups. The use of video for research is even expected to impact on social science itself. The introduction of video recorded/generated, non-alphanumeric data for scientific analysis now poses an epistemological challenge to traditional research methods. This challenge has resulted to the jelling of a method called "ethnovideography. "

Ethnovideography is a research procedure that makes use of small-format video recorded, non-alphanumeric data for social analysis. As described in an earlier section, it is the conduct of ethnography utilizing video. It may be supplementary to an ethnographic

investigation or may be the main research undertaking itself. This procedure entails on-camera documentation of four types of subjects: people, places, events, processes and social problems.

Ethnovideography slowly evolved within the Los Baños research community in the past ten years, primarily out of documentation undertakings of the UPLB College of Development Communication. The proponents were aware of the growing interest on video among research institutions. An interest, which seemingly stemmed not from the research mandate but from the wrong reasons, primarily institutional promotion. Ethnovideography grew out of this concern for a more direct contribution of video technology to research.

A number of techniques as well as part of the rationale for ethnovideography were borrowed from the *cinema direct* school of documentary production. While some regard ethnovideography merely as a procedure, others see it as a methodology in itself, having its own epistemological, theoretical and procedural bases.

Cinema Direct

To what extent does film or digital video mirror reality? How objectively can a video documentary treat its subject matter? Is the film or video medium genuinely appropriate in recording, documenting and projecting the "truth"?

Questions such as these form part of an ongoing debate regarding the merits of the video or film documentary as a medium for capturing and projecting reality. Observers argue that a documentary cannot be truly objective. A documentary is essentially a statement of the filmmaker.

Before a documentary is shown as a finished product, it goes through the whole rigmarole of treatment writing, script-writing, shooting, editing, dubbing, curing, etc. In some of the sequences, treatment writing and scriptwriting precede the actual shooting. Thus, reality as projected, is determined by the treatment writer and/or the scriptwriter as well as the director and/or the editor. Before the event captured on video occurs, it has already been hatched in the writer's or the director's mind. It could be argued then that the "reality" projected in a video documentary is the filmmaker's creation.

Some of us may have gone through the experience of viewing two entirely different documentaries that deal with the same subject. These often lead us to conclude that the video presentations deal with two different subjects altogether. One reality is filtered through two opposing points of view. And one wonders whether it was the reality or the points of view, which was captured on video.

Would it not be possible then to use the video documentary for a genuinely objective treatment of the subject matter? To answer this question, we have to borrow from the experiences of a cinematic movement known as *cinema verite* or *cinema direct*. This movement, which later developed into a school of thought in its own right, gained momentum during the advent of the so-called new wave filmmakers (circa 1955-65).

The following section deals with a structural analysis of *cinema direct* thought and technique. Observations and impressions were supplemented by informal interviews with Alain Martinot from the Cinema Direct Training and Research Center of France. Professor Martinot is a visual anthropologist with a rich experience of documenting the Badjao communities of Jolo.

Structural Analysis of Cinema Direct

This structural analysis forwards the following propositions:

Firstly, *cinema direct* films give a more accurate depiction of reality than other documentary films because of certain procedures described in the operative order of this analysis.

Secondly, *cinema direct* documentary style provides a better understanding of the subject.

Thirdly, the *cinema direct* approach would be as useful for the social scientist (i.e., ethnographer, communication researcher, etc.) as for the media practitioner.

Lastly, the *cinema direct* film, because of equipment considerations and subject participation, is the most appropriate documentary medium for developing countries.

The Conceptual Order

The Film Medium. Nowhere is Marshall McLuhan's dictum that the medium is the message more apparent than in film and video. The French filmmaker Jean Renoir once remarked:

In the cinema at present, the camera has become a sort of god. You have a camera fixed on its tripod or crane, which is just like a heathen altar; about it are the high priests - the director, cameraman, and assistant - who bring victims before the camera, like burnt offerings, and cast them into the flames. And the camera is there, immobile - or almost so - and when it does move, it follows patterns ordained by the high priests, not by the victims.

What results is a staged sequence wherein the medium determines the content or the event recorded. Form dictates substance. The "raw event" is distorted.

A number of filmmakers, most of them with backgrounds in sociology and anthropology, reacted against this method. Creating or staging "natural" situations for the camera was to them quite unacceptable. Undirected realism became their foremost consideration in making films.

Cinema Verite. The term *cinema verite* (the cinema of truth) was first introduced by the sociologist Edgar Morin to describe the work of Russian filmmaker, Dziga Vertov. Since the word "truth" was too abstract and too suggestive, the expression was modified into *cinema direct* by Mario Ruspoli in 1963. *Cinema direct* claims to be "a method of shooting and presenting material so as to preserve primarily the spontaneity and flavor of the real event. "

In the *cinema direct* approach, the film-maker supposedly becomes "in touch" with his subject and he consequently "admits the power they have upon direction. " In other words, the subject is not at all dictated upon by the filmmaker's ideas on how a scene is to be shot. Neither are the subject's actions determined by the placement of the camera. There is no such thing as "blocking. " The subject actually participates in the conception of the film. The film idea is based upon the subject alone. On the macro-level, this technique encourages people empowerment.

Aside from being participatory in nature, this approach is compatible with the process view of communication. While conventional filmmaking has traditionally been source and channel oriented, *cinema direct* avoids being so. Its emphasis instead is on undirected realism - the subject as it is. In other words, it endeavors to neutralize the two domineering factors in the production of a film: the filmmaker and the camera.

The Operative Order

- *Scripts, narration as well as aural and effects are not employed in cinema direct productions.*

When a *cinema direct* film is shot, there is no script involved. The filmmaker documents the events in the subject's life, undirected and unrehearsed, as it happens. These "slices of reality" ultimately form the structure of the film. Thus, the film idea is not hatched in a scriptwriter's mind. Rather, it is abstracted from the subject's behavior.

Absolutely no special effects are used - aural or visual. No background music is employed since these only serve to enhance certain aspects of the film at the expense of other aspects. There is no "doctoring", no dubbing. Slow motion effects, split frames and freeze frames are never used. There are neither voice-overs nor narrations. On-camera and off-camera interviews are taboo.

It is not easy to accept these restrictions at first. We could argue that things are not done in this manner. In educational communication production courses, for instance, students are taught to determine the specific behavioral objectives of an audio-visual presentation before anything else. After the treatment is defined, the communication material is designed, written and produced in such a manner that the objectives are achieved when shown to its intended audience. To enhance the production's effectiveness, visual and aural effects are used; background music is employed; the sound is produced, dubbed or doctored under studio conditions; and so on. This holds true for both documentary and non-documentary presentations.

On the other hand, in the production of a *cinema direct* film, the filmmaker cannot have specific objectives in mind for his intended audience lest these distort the reality of the presentation and the presentation of reality. This argument, in fact, is not at all inconsistent with the social-orientation of development communication.

Providing a script for a *cinema direct* production would defeat the purpose of producing such a film since reality cannot be "scripted." Conventional film documentation, although claiming to be objective treatments, are in fact largely subjective in nature. Voice-overs and narrations direct the stream of consciousness or flow of thought of the audience. Music and stingers provide drama and impact to a sequence, contriving certain effects. Interviews are controlled by the interviewer and not by the interviewee.

One could argue, however, that without employing music, sound effects, narration and interviews, the final product would be a very dull film. Also, the absence of a script would result to a sloppy production. *Cinema direct* practitioners counter that the absence of music, sound effects, etc. should not be considered as a constraint but a challenge to the creativity of the filmmaker. In effect, he becomes a "film artist" in the real sense of the word. Furthermore, the absence of a script would contribute to the film's spontaneity. The production would be far from dull.

- *The use of lightweight, portable equipment is prescribed.*

The *cinema direct* system prescribes the use of lightweight film cameras (Super 8 mm, 16 mm or small format video - 8 mm or .5 " gauge), which along with lightweight sound equipment may be easily carried by two-man crews able to move in and around the subject unobtrusively.

A *cinema direct* crew is usually made up of two persons: the filmmaker cameraman assisted by a soundman. With such relatively light and unobtrusive equipment (camera and boom) *cinema direct* teams are able to "get into the action" so to speak.

- *Camera techniques are unassuming and unobtrusive.*

In *cinema direct*, the camera is relatively static. Zooming in and zooming out is discouraged and so is excessive panning. The establishing shot is seldom used. Tilt-ups (low angle) and tilt downs (high angle) are employed sparingly. So are close-ups and long shots, particularly the extreme types. The use of the Tele-lens is frowned upon partly because of the minimal depth of field it provides and partly because of the jerky image produced on a hand-held camera.

When the subject is stationary, the camera is static unless constraints in time dictate a cut (Note: One Kodak Super 8 cartridge has a total running time of 2.5 minutes at 24 frames per second). When the "take" is cut, the cameraman changes angles and distance from the subject to avoid the jumps produced by joining two takes from identical orientations.

cinema direct presentations make generous use of shoot-edited footage. In any case, the camera does not interfere with, nor does it determine the subject's actions.

The camera follows a moving subject from a fixed point occasionally. This is when panning is employed. Most of the time, however, the camera moves parallel to a moving subject to maintain a desired distance and focus.

In films, the illusion of motion is achieved through continuous projected still images. The super 8 format is capable of recording and projecting these images in three speeds: 12 frames per second; 18 frames per second; and 24 frames per second. *Cinema direct* uses the 24 frames per second speed. Although this speed uses up more film, it gives the most natural illusion of motion.

- " *Sound is half your film.* "

Equal emphasis and treatment are to be afforded to the recording of images and the recording of sound. Improvised filters are attached to the boom for outdoor shooting. The soundman is instructed to point his directional microphone towards the center of action.

There is no attempt to be "antiseptic" in the sound track. The dialogue is not isolated from external sounds or actualities. All sounds incidental to or part of the scene are recorded (with due emphasis given on the dialogue). As mentioned earlier, sound effects and musical effects are not incorporated into the sound track. However, it goes without saying that music, which constitutes part of the scene, is recorded as faithfully as possible.

In summary, this structural analysis offers a framework for the use of small-format video in the study of communities, groups or individuals. The propositions, conceptual framework and operational guidelines contained herein form the theoretical basis for ethnovideography. The following section deals with its procedural operationalization.

PROCEDURE

Instruments

The Digital Camcorder. In ethnovideography, the main instrument used in gathering data is the digital camcorder. As the name implies, the camcorder integrates the three basic components of a video recording system, namely, the television camera, the audio pick-up and the videotape recorder. The camcorder was inspired by conventional motion picture cameras (35mm, 16mm and 8mm). However, it evolved from earlier models of electronic newsgathering hardware known as the portapack system. The portapack consists of a handheld video camera and a portable video tape recorder. This system was initially employed on (and actually gave birth to) the Umatic format and subsequently on small-formats such as VHS and Beta.

Eventually, however, hardware manufacturers began offering VHS and Beta camcorder models that greatly increased the portability, maneuverability, speed and convenience not

to mention the documentation potential of video recording equipment. Camcorders became such favorite consumer models that from the very beginning, Video-8 equipment were designed as such. Nowadays, small-format video cameras come exclusively as camcorders.

In video as in film, format usually refers to the width gauge of the videotape. Small-format video are those with gauges less than the Umatic's (three-fourths of an inch). Both Beta, VHS and Super VHS tapes are one-half inch in width and hence are considered small-formats. So are Video-8 and Hi-8, which come in eight-millimeter width. These formats have lower resolutions than broadcast quality Umatic and C-type formats. Furthermore, they were dramatically less expensive and were available to many consumers. Thus, small-format video has often been associated with sub-professional applications of video, i.e. home video, documentation and, to a certain extent, educational. However, these distinctions were blurred by the Betacam format, which came as camcorders and used one-half inch tapes but produced extremely clear images that soon set broadcast industry standards. Additionally, the introduction of digital video (with gauges ranging from one-fourth to one inch) further made the quality distinctions irrelevant. Properly executed digital video shots using palmcorder-size cameras produce images with amazing clarity and resolution not to mention the almost total absence of generation loss. Now, the format of choice in ethnovideography is the one-fourth inch DV (digital video) format particularly with the Sony's withdrawal of Hi-8 from the industrial video market in the summer of 1997.

Insofar as the choice of camcorder models is concerned, the following criteria should be used: *user-friendliness* or the simplicity and ease of operation of the unit; *durability* or its capacity to withstand extreme conditions and shock in the field; reasonable *cost*; *quality* of its make and its performance; and the rate of *obsolescence* of the model. Given these criteria, one should be able to choose from a wide range of models playing between the high and low ends of camcorder technology.

The Journal. The ethnovideographer requires a journal which would contain the following: the shot list; index and description of shots per tape; index of relevant facts and figures; enumeration and description of contacts and key informants; and insights related to the fieldwork. The journal will be very useful in the pre-videography and post-videography phases.

Protocol

A properly conducted ethnovideographic study should follow a sequence of activities. These activities fall under the following phases:

Pre-videography. Pre-videography would take from three to seven days of field exposure inclusive of field reconnaissance, identification of perspective subjects, visualization of shots, and a two-way familiarization with the community. During this phase, the researcher pays courtesy calls to the formal and nonformal leaders and makes known his intention of documenting processes, events, persons and phenomena in their community. He brings his camcorder along to make clear that his main activity is video documentation. *However, he*

should not take a single shot during this phase. This serves two purposes: to avoid camera intimidation among prospective subjects (a “getting-used-to-the-hardware” period is generally required); and to inculcate a certain discipline in exposing videotape.

The ethnovideographer should endeavor to maintain this form of discipline in his documentation. He should be able to observe the process or phenomenon first and to analyze it before attempting a shoot. In this manner, he is able to visualize the best angles, orientation and sequencing. He should be able to talk to his subjects lengthily during this phase and to observe which statements or actions would merit video documentation. All these observations should be properly noted in his journal as this would serve the basis for his shot list and documentation plan. This plan includes a rough calendar of activities for his shoot and a description of the preparations, logistical and otherwise, required.

Videography. The actual conduct of ethnovideography requires a team of two researchers: a male-female tandem. Needless to say, this team would require two camcorders: a pro-series, shoulder-mounted camcorder; and a palmcorder. Who operates what would partly be determined by seniority (i.e. who is the lead researcher) and partly by gender (generally, the male member of the team gets to carry the bigger, heavier camera).

During on-camera interviews with men folk in the community, the female researcher executes the shoot while the male researcher does the interviewing. Interviews with women and youth are conducted by the female researcher to ensure openness, while the male researcher does the camera work. Clarity of sound is the responsibility of the interviewer. In these instances, an external uni-directional dynamic microphone is used.

In the evenings, the shots are previewed by the team and indexed for future reference. During these previews, good shots and editing points are already identified. Again, these would all be entered into the journal.

Post-videography. After the videography phase, the researchers leave the field for their computers and video post-production equipment. Post-videography is made up of four major activities.

The first major activity of this phase is shot cataloguing and classification. The shots are classified and annotated according to the NUD.IST document system for video based upon the objectives of the study. The indexing that was done during the videography phase helps in two ways: location of a specific shot in the footage through the counter/real time numbers; and the classification, coding, structuring, search, and analysis procedures of NUD.IST through the shot descriptions.

The second activity is pre-editing and digitizing (or capturing, if an analog video camera was used instead of a digital video camera). The rough edges of each shot is cut out based on the editing points identified during the preview sessions. Assuming that the requisite hardware is available, the pre-edited footage is then downloaded into a hard disk under directories determined by the shot cataloguing and classification categories. Each shot will

be contained in a separate file with attached memos. Only the good shots, i.e., those with potential significance visually and substantively, will be downloaded.

Abstracting. Abstracting reduces the number of frames per unit time in the footage thus reducing the size of a file into manageable chunks. This involves automatically selecting key frames from each shot that may in turn be used to represent the total image sequence of the file. The recommended method was developed by Rorvig (1993) and has been known to reduce 51 minutes of video sequences to 134 frames - a reduction in the range of 700:1. Abstracting is necessary to allow the researcher to efficiently view shots in shorter times. The number of shots executed by the ethnovideographer could literally run to the hundreds with durations ranging from ten seconds to three minutes. Furthermore, current hard or compact disk capacities can hardly accommodate the size and number of these files even when compressed. The disadvantage of abstracting, however, is that the abstracted clips will not contain any sound.

After the files are abstracted, these along with the non-abstracted files and directories are recorded on a CD-ROMs for future use.

Assembling. The final activity in post-videography is assembling and editing presentations from the raw material collected.

The researcher, guided by the NUD.IST program, analyzes the footage available in the CDs. He does so first with the abstracted files, then proceeds with selected complete files based on his preliminary analysis. He assembles the selected files into logical presentations in accordance with the structure or sequence validated by NUD.IST with or without textual annotations. These presentations are mastered on Super VHS tapes and reproduced on regular VHS format.

Several presentations can be assembled from the collected footage depending upon the purpose of the ethnovideographer. For instance, one finished product could present the analysis of the phenomenon, another could address a specific policy problem pertaining to the community.

Chapter 3.

Ethnovideography as Development Intervention

Instructional Objectives

After studying this chapter, the reader should be able to:

1. define social capital;
2. describe the Fogo process; and
3. enumerate lessons learned in using video as an electronic mirror.

Chapter Outline

1. Social Capital Formation
2. Electronic Mirrors
 - 2.1. The Fogo Process
 - 2.2. The Skyriver Project
 - 2.3. Meeting Ancestors

SOCIAL CAPITAL FORMATION

Although this book deals with the documentation of indigenous and local knowledge, this chapter would like to focus on the utilization of such knowledge for social capital formation purposes. The literature on participatory documentation has often described a phenomenon that results from the subject, be it an individual or a community, viewing audiovisual records of itself. This phenomenon was known as the *Fogo Process* for a time. Lately, however, social scientists refer to it as video's function as an *electronic mirror* for society. In a nutshell, when an individual or a community, which is a subject of film or video documentation, views footage of himself/ itself and his/its circumstances, the subject is moved to action. At the community level, it may lead to social mobilization. When a community views itself performing a collective act, positive reinforcement of this act occurs within the collective body leading to further action or mobilization. The Bob and Emmy Garon footage shown over national television definitely prompted others to join the EDSA Revolution of 1986.

Social capital is the capacity of a group or a community to achieve targets through collective undertakings. It is a recognized prerequisite for the success of any development program. Among other things, it is attained through mutual reinforcement among community members, something made possible by using video as an electronic mirror.

ELECTRONIC MIRRORS

The Fogo Process

In the late sixties, the island of Fogo was one of the most depressed areas within the Commonwealth of Canada. Situated off Notre Dame Bay, the island is chiefly populated by farm families.

In 1967, a film crew from the Canadian Broadcasting Corporation visited Fogo to film a documentary on the islanders' poverty. What resulted was a television feature that presented a superficial and at times erroneous depiction of Fogo life. The film documentary was essentially a subjective interpretation and, hence, a product of the film-makers mind. This generated a lot of resentment from local officials who knew of the genuine situation in Fogo. To present what they felt was a more accurate picture of poverty in Fogo, Colin Low of the Agricultural Extension Service approached a Canadian filmmaker, Don Snowden, known for his documentary work. They collaborated on a film that eventually had a very profound, and yet inadvertent effect on the subjects of the film and their community. This effect was an outcome of the innovative documentary technique that Low and Snowden employed.

This technique may best be described as participatory documentation. Low and Snowden avoided any tendency to impose their opinions and perspectives on their subjects and saw to it that these were not reflected in the film. In other words, they presented the situation from their subjects' eyes, ears and experiences. What was even more innovative was the processing of the documentary in their subjects' minds.

The Fogo islanders were shown the film rushes, the rough edits and the final edits. Not only did they participate in the editing. They were actually processing these images and sounds in their minds, eventually, bringing Fogo poverty into their consciousness allowing them an opportunity to collectively validate its causes. This collective validation led to collective action against the conditions that caused poverty.

The Fogo process began with participation, initiated social reflection, which resulted in collective action or mobilization.

The Skyriver Project

The Fogo Process was replicated to a certain extent in Lower Yukon, Alaska by the United States Office of Economic Opportunity. This undertaking, called the Skyriver Project, was implemented from 1970 to 1972. It was essentially an experiment in using film and video to organize and mobilize communities.

The Clearinghouse on Development Communication gave the following account of the project:

The people of a target village first selected a project organizer from their own ranks. In open-ended meetings with local men and women, the community identified respected community leaders and pressing local issues...These leaders were encouraged to talk about and offer solutions to village problems before the camera in whatever language, setting or format they liked. After a private screening during which the person interviewed could delete or add material, the film or tape was released to the project organizer for approval and to the community to stimulate further discussion and clarification of the problems... Gradually, a film emerged, one that reflected a community consensus.

A completed film was taken to Juneau and shown to government officials and other groups interested in social welfare. The Skyriver crew taped video responses from these people, which were sent back to the filmed community for viewing. The same films were also sent to other rural villages to promote the concept of using videotaped forums.

In this project, editing, distribution and content were controlled by the film's subject rather than by the producers. In the later stages of the project, Eskimos formed the film crew.

The Skyriver Project produced several films that had a profound impact on government policy, specifically on education and housing. As in the case of the Fogo project, the communities became more integrated and less factionalized, more conscious of their social realities and less apathetic to government initiatives

Meeting Ancestors

The following is an account published in the *Time Magazine* issue of May 2, 1994. It relates the experience of two videographers, Vincent Carelli and Dominique Gallois, with their documentary *Meeting Ancestors*:

The information highway extends into the Amazon rain forest. For the past seven years, the Sao Paulo-based Center for Work with Indigenous Peoples has been teaching tribal members how to use a video camera to record village customs and then share the finished tapes with neighboring groups. Meeting Ancestors (A Arca dos Zo'e) is a 22-minute record of the first encounter between a Waiapi group and the Zo'e people, a 153-member tribe in the northern state of Para that was officially contacted in 1987 by Brazil's Indian protection agency. While the Zo'e are eager to learn about the outside world, the Waiapi hope to re-establish cultural roots.

Dominique Gallois videotaped the Zo'e in 1992, and when the Waiapi chief saw the film, he declared, "They live just like our ancestors." Anthropologist Vincent Carelli, Gallois and five Waiapi spent 23 days in the Zo'e villages of Cuminapanema. The Waiapi showed homemade tapes from their village, and the two groups, which speak similar dialects of Tupi-Guarani, were filmed discussing rituals and legends as well as essentials of weaving and cooking and techniques for hunting and healing. Meeting Ancestors has won awards at international video festivals in Tokyo and Paris. More important than the prizes, though, is the impact it will have in forging bonds that may help tribes survive the encroachment of modern civilization.

These three experiences has taught us that video documentation, when applied similarly:

1. may increase the self-confidence and improve the self-image of its subjects;
2. may act as a catalyst for consensus building and social capital formation;
3. may act as a catalyst for social action and mobilization;
4. may set the social agenda; and
5. may serve as a venue for peer teaching.

Appendices B, C and D contain concept notes of projects that intend to tap this phenomenon.

Chapter 4.

Ethnovideography as Knowledge System

Instructional Objectives

After studying this chapter, the reader should be able to:

1. define knowledge management;
2. describe the role of digital documentation in indigenous knowledge systems; and
3. discuss the features of the IKS-MIS interface.

Chapter Outline

1. Indigenous knowledge
 - 1.1. The UNDP Initiative
 - 1.2. Knowledge Management
 - 1.3. Digital Documentation
2. IKS-MIS Interface
 - 2.1. Objectives of the System
 - 2.2. Scope of the System
 - 2.3. Concept of Operation
3. Requirements Definition
 - 3.1. Prospective Users and Information Needs
 - 3.2. Database and Other Applications
 - 3.3. Input-Process-Output Specifications
 - 3.4. Performance Requirements
4. Implementation Strategy
 - 4.1. Data
 - 4.2. Software
 - 4.3. Hardware

INDIGENOUS KNOWLEDGE

Indigenous communities represent ten percent of the total population of the Philippines. Tribal Filipinos have been grouped into: (1) the Cordilleras of the Cordillera mountain range in Northern Luzon; (2) the Caraballos of the mountain range south of the Cordillera mountains; (3) the Lumads of Mindanao; (4) the Palawans of Palawan island; (5) the Mangyans of Mindoro; and (6) the Negritos (Gasgonia, 1995 in Flor, 2002). Occupying most of the remaining forested areas of the islands, each of these major groups possesses indigenous knowledge on biodiversity and the maintenance of the equilibrium required by their respective ecosystems.

The UNDP Initiative

In August 2002, the United Nations Development Program initiated a project entitled Capacity Assessment for the Preservation and Maintenance of Biodiversity Related Knowledge from Indigenous and Local Communities. The project had the following objectives:

1. to document biodiversity-related knowledge of indigenous and local communities;
2. to assess the capacity of communities and other relevant institutions to preserve, maintain, and/or transfer this knowledge so that it can be made useful to future generations; and
3. to prepare a Capacity Development Strategy for the Preservation and Maintenance of Biodiversity-Related Knowledge of Indigenous and Local Communities.

According to its Terms of Reference, the project covers the following activities:

1. The review of all pertinent national documents and efforts on documenting indigenous knowledge relevant to biodiversity conservation.
2. The design of data gathering instruments and the implementation of research, including conduct of meetings, workshops, and consultations that would capture information on the biodiversity-related knowledge of IPs and local communities.
3. In close coordination with PAWB and the National Commission on Indigenous Peoples (NCIP), prepare a Capacity Development Strategy for the Preservation and Maintenance of Biodiversity-Related Knowledge of Indigenous and Local Communities

These activities are indeed necessary to conduct a comprehensive capacity assessment for the preservation and maintenance of biodiversity-related knowledge of indigenous and local communities. One crucial dimension, however, which has not been included in the TOR is the identification and specification of the appropriate knowledge capture and mining system to be used by indigenous communities, institutions and agencies. Putting such a mechanism in place would, in fact be more sustainable than a one-shot documentation of indigenous knowledge. Furthermore, this benchmarking allows for the

identification of skills and capacity gaps within IP communities and relevant agencies. An appropriate knowledge capture and storage mechanism incorporated in a *knowledge management system*, will enable the sharing and reuse of indigenous knowledge on biodiversity. In effect, it will maximize the contribution of indigenous and local communities to the continuing biodiversity initiatives of the country.

Knowledge Management

Knowledge management or KM is an evolving discipline that considers a system's intellectual capital as a manageable asset. Every group, organization, or social system possesses some form of human capital, made up of individual talents and knowledge. The latter is sometimes referred to as intellectual capital, considered by many as a fundamental input to all development processes. Knowledge management requires information and communication technology or ICT. Prior to the development of ICT, knowledge was not thought of as manageable because it primarily resides in the individual. It is difficult to document and store. With ICT, such knowledge can be captured, stored and shared electronically, in short, managed.

The goal of knowledge management is to enable the sharing and reuse of knowledge within a system and its knowledge environment. It has been an established fact that indigenous peoples have a wealth of knowledge on biodiversity. However, these may be characterized as tacit rather than explicit. This knowledge should be made available to others through a system powered by information and communication technology. The following figure gives a visual representation of this ideal.

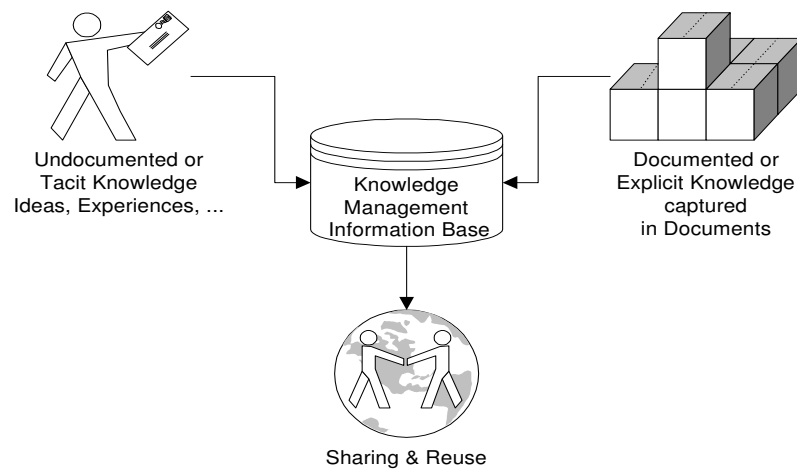


Figure 1. Goal of knowledge management

Appendix F gives a sample proposal for a knowledge management system.

Digital Documentation

As a prerequisite to knowledge management, digital documentation tools must be employed. Indigenous knowledge can best be captured digitally, through audio recordings, still photographs, and video recordings. Digital data can easily migrate and converge. If indigenous and local communities do not have this capability, then this should be included in the capacity development strategy. In this case, capability refers to three dimensions: hardware; software; and skills. Past experience reveal that building the capability of indigenous and local communities along these lines are feasible.

IKS-MIS INTERFACE

Knowledge comes from information, while information is derived from data. The volume and variety of data that has been, is being, and will be generated by the information and knowledge industries are increasing exponentially in what social observers refer to as an information explosion or a knowledge revolution. This has necessitated the development of mechanisms for storing, retrieving and manipulating data and information for management purposes. Called management information systems (MIS), these mechanisms have evolved from filing systems to complex computer-based databanks or multi-media interactive decision systems. By definition, the primary users of an MIS are managers. Within research organizations, we may extend these users to researchers, decision makers, and even policy makers.

Knowledge systems, on the other hand, cover more processes and are infinitely more complicated than information systems. Knowledge systems require a context, the societal or organizational culture within which the system operates. This culture determines the assumptions, standards, structures, processes and procedures through which knowledge is attained. Ethnovideography intends to capture the context since it cannot be removed temporally and spatially from the sounds and images recorded.

In the design of an MIS-IKS interface this distinction between information and knowledge has to be stressed. So should be the distinction between information and data. Traditionally, data has been defined as a series of characters to which we assign values. When one assigns weights, meanings, trends or generalizations within given sets of data, one arrives at information. Information, measured in bits (binary digits), is a unit of negative uncertainty.

Objectives of the System

The objectives of this MIS-IKS interface are:

1. to document indigenous knowledge in agriculture as manifested in the following;
 - 1.1. folktales, myths, stories -- all falling under oral tradition
 - 1.2. direct instruction of elders to the youth
 - 1.3. demonstrations
 - 1.4. rituals
 - 1.5. dances, performances and songs

2. to collate these into meaningful, logical categories; and
3. to classify, validate and store these into manageable multi-media files and directories.

Scope of the System

Traditionally, the sequence of activities involved in a management information system (MIS) may be summarized as follows:

A source consisting of the physical activities and items, which are relevant to the organization. For purposes of the project, this may be interpreted as the source of indigenous knowledge -- informants and traditional farmers. The organization may refer to CIP-UPWARD or any international agricultural research center interested in pursuing research on IK.

The observation, measurement and recording of data from the source. Again for our purposes, this may be interpreted as folktales, myths, stories; direct instruction of elders to the youth; demonstrations; rituals; and dances, performances and songs. However, these will be recorded in audio-visual or multi-media form.

The drawing of inferences and predictions from the data. Depending upon the quality of data, these inferences and predictions may be arrived at in this MIS-IKS interface through the application of the NUD.IST computer program.

The evaluation of inferences with regard to the values (objectives or goal targets) of the organization and the choosing or a course of action. Since research is the primary function of the organization, the generation of inferences and predictions, i.e., theoretical constructs relevant to agriculture should prove an end in itself.

The implementation of a course of action. There is nothing more practical than a good theory, so they say. The theoretical constructs will have anticipated contributions to agricultural policy, particularly pertaining to farmers, rural housewives and youth, as well as to sustainable cultural management practices.

Concept of Operation

There are four alternative approaches to designing management information systems: the data bank design; the predictive information design; the decision-making design; and the decision-taking design. The last two approaches may be irrelevant to or inappropriate for our purposes.

The data bank design assumes the weakest link between information system and the agricultural researcher. The responsibility of the information system is just to observe, classify, validate and store any item of data that might be potentially useful to the social scientist and/or policy maker.

While traditional databank information systems are *fact generators*, the ethnovideographic system is a *visceral experience retriever*. The scientist or policy maker must determine what “meaning” this type of data has for his research problem and then arrive at logical conclusions. This approach is most effective for our purposes because, in ethnovideography, the nature of the required inference is not known with any precision beforehand. Furthermore, the assumptions about the system preferences are rapidly changing.

However, there are built-in disadvantages to this system, which include: the collection of too much irrelevant data; and the omission of relevant data. A lack of definite orientation can result in collecting data that is not in the appropriate form for its subsequent use. Furthermore, the researcher is left with the chore of doing the necessary assessment and processing of the audio-visual data.

The predictive information system, on the other hand, extends the interface from the activities of pure data collection and filing to include the drawing of inferences and predictions that are relevant for theorizing. To a certain extent, this may be achieved by the system.

For sure, the system should have valid assumptions about: which of the many phenomena occurring at the source should be observed, selected, filtered, classified (into which categories), measured (on which scales) and recorded as data items and about which items are relevant to subsequent conclusions. A research information system will be as good as its weakest assumption, the validity of its data, the timeliness of its delivery and the resulting improvement in theorizing.

How is IK handed down from generation to generation? How does IK become part of culture? In other words, how is social learning achieved in this knowledge system? Through the following media:

- folktales, myths, stories -- all falling under oral tradition
- direct instruction of elders to the youth
- demonstrations
- rituals
- dances, performances and songs

These media form the categories of ethnovideographic data for the MIS-IKS interface.

REQUIREMENTS DEFINITION

This section describes the main processing and database requirements of the proposed system. It enumerates the database and other applications to be developed, the basic input, processing and output requirements, and the system performance requirements.

Prospective Users and Information Needs

The MIS-IKS interface is expected to cater to the research information needs of social scientists and policy makers in the international agricultural research network. These include sociologists, anthropologists, economists, communication scientists, policy scientists, extension specialists, community development experts and other field workers.

Database and Other Applications

As described in an earlier sub-section, the database of this proposed system shall contain information on the following: folktales, myths, stories; direct instruction of elders to the youth; demonstrations; rituals; and dances, performances and songs. These information will be in the form of multi-media files, primarily audio-video based. Since the audio-visual information contained in these multi-media files are not divorced from the context, this system goes beyond the traditional information systems concept and infringes into knowledge systems. Furthermore, since it deals almost exclusively with indigenous knowledge in agriculture, we refer to it as an MIS-IKS interface.

Input-Process-Output Specifications

Digital audio-video data from digital video camcorders or digitized audio-video data from analog camcorders will be fed into the system. Textual data will be attached to these files as annotations or memos.

The input specifications require a higher level of processing that may be found in the NUD.IST software package. NUD.IST, which stands for Non-numerical Unstructured Data Indexing Searching and Theory-building, is an all-purpose qualitative data analysis system. This software will be discussed at length in succeeding sections.

Possible data classifications include internal-attitudinal categories (significant views, dominant perceptions); external-behavioral categories (processes, events, activities); and external-physical (infrastructure, facilities).

Processing requirements for the system will largely involve the storage and indexing of both audio-visual and full-text databases. Distribution may be done both on-line, such as using a search engine, and off-line, such as CD-ROM or videotape. This may require non-linear video assembly editing. Software and hardware requirements will be discussed separately.

Possible output include: video abstracts; audio-video archives; ethnovideographic studies or presentations; cross-references and comparisons (changes in subject's perceptions, project site's pre- and post-intervention status); and abridged documentation.

Performance Requirements

Since most computer systems currently installed in agricultural research establishments have very limited memory and storage capacities to handle multi-media files (particularly video-based files), it is not practical to recommend a local area network (LAN) for the proposed system. Should appropriate funds be available for the installation of high-end hardware and a LAN or even a WAN (wide area network) is feasible, then this on-line system performance will be measured in terms of response time. However, it should be noted that even with high-end hardware, the inordinately large size of the multi-media file (5MB and higher) will result in a very slow response time.

IMPLEMENTATION STRATEGY

This section outlines the implementation strategy for the ethnovideographic MIS-IKS interface described in the following: data, software and hardware.

Data

Digital audio and video data with links to full-text documents should be included in the database definitions. Parallel to this, index data should be inputted for NUD.IST processing. There might be a need to accommodate the requirements of a hypertext system requiring HTML programming.

Software

The following software are required to run the proposed system:

NUD.IST. Non-numerical Unstructured Data Indexing Searching and Theory building is an all purpose qualitative data analysis system. Having a variety of functions, NUD.IST serves to develop, support and manage qualitative data analysis projects that characterize most social scientific undertakings on indigenous agricultural practices. Through NUD.IST, the ethnovideographer can generate a document system and an index system with an index system search engine that facilitates audio-video clip analysis and would lead to theory building.

Progress Dbase Package. This multi-media dbase software can supplement the NUD.IST document system and facilitate analysis. One advantage of Progress is its ability to manipulate audio-visual data, which may be a limitation in NUD.IST. However, Progress does not have the powerful analytic tools available to NUD.IST.

CD-WORM/CD-ROM Operating System. This software comes with the Yamaha or Hitachi CD-WORM presser or CD-ROM player that will be procured.

Authorware. This authoring system is required for the assembling of multi-media files.

Adobe Premier, Mannequin and Magic Video Packages. These software will assist in the nonlinear assembly of video presentations, abstracting and the editing of video clips prior to storage.

Hardware

The hardware requirements of the system are as follows:

Analog or Digital Video Camcorders . One of the biggest constraints faced by this design undertaking is the rate of obsolescence of video and computing hardware and software. In May 1997, Sony announced that it would phase-out the industrial-type Hi-8 hardware that it is manufacturing in preparation for the phase-out of the 8 millimeter video formats that it developed ten years ago. Additionally, Sony stated that it would concentrate on its digital video line that it introduced in the market barely two years ago. This development will require a retooling/re-equipping of research agencies that have already invested heavily on Hi-8 equipment. It also necessitated an overhaul of this report.

Digital video is superior to analogue video of whatever format. Digital offers less “noise”, more resolution (chromatic and luminance, horizontal and vertical), greater enhancement, control and manipulation of sound and image, more visual effects, and almost no generation loss. A digital camcorder the size of a lunch box has a capability equal to or greater than a professional analogue camcorder the size of a carrying case. Besides, it is far less expensive than the professional camera. Furthermore, for purposes of ethnovideography, digital video could be directly linked to future generations of personal computers while analogue video still requires digitization. Hence, there is no reason to retain Hi-8 technology (or Super VHS, for that matter) in this design effort.

However, it is recognized that many international research organizations are not in a position to shift immediately to digital video primarily because of the lack of funds. Hence, analogue and digital video camcorders have been included in the options below:

Option 1. The Digital Option

Panasonic AG-EZ1U Digital Video Camera/Recorder (Figure 2)

Panasonic AJ-D200 Digital Video Pro Camera/Recorder (Figure 3)

Option 2. The Super VHS Option

JVC GR-S505U Super VHS-C Video Camera/Recorder

Panasonic MS1 Super VHS Video Camera/Recorder

Option 3. The Hi-8 Option

Sony EVV-9000 Hi-8 Video Camera/Recorder (Figure 4)

Sony EVO-9100 Hi-8 Camera/Recorder (Figure 5)



Figure 2. Panasonic AG-EZ1U Digital Video Camcorder



Figure 3. Panasonic AJ-D200 Digital Video Pro Camcorder



Figure 4. SONY EVV-9000 Hi-8 Video Camcorder



Figure5. SONY EVV Hi-8 Camcorder

As discussed in earlier sections, the ethnovideographic procedure requires a team of two researcher each equipped with a camcorder or different sizes but similar formats. The models listed above would provide the adequate combination required. Please refer to Figures 1 to 6 for photographs of these models.

Computer System. A high-end Pentium IV IBM-PC system is required to manipulate multi-media files of the sizes required by the proposed system. A video capture card (preferably Pinnacle with pre-installed Adobe Premier software) is a must. It should run on multi-media technology (MMX) and should have at least 260 MB RAM and 26 GB HDD. It should have a seven-bay CD-ROM Server and at least one CD-WORM unit. A non-linear editing component is needed which may or may not require an addition unit such as Amiga computer. A less expensive lower-end option is the purchase of an Aver Video Editor that may be linked to the PC.

The trend towards digitization is proving to be a boon for this application. The Apple's iMac Series now offers a moderately priced, increasingly user friendly system for digital, non-linear editing and assembly of small video packets. However, they may need memory upgrades and hard drive additions. The iMac/400 DV and iMac/400 SE come with 128 MB RAM and a 13 GB hard disc. These units will be very useful in editing short video clips with very little training on the part of the user-researcher.

The following matrix summarizes the design specification of the MIS-IKS interface.

	INPUT	PROCESS	OUTPUT
Data	Internal-Attitudinal: Significant Views Dominant Perceptions External-Behavioral: Processes Events and Activities External-Physical: Infrastructure Facilities	Categorization into appropriate data fields and index structures using NUD.IST Storage on CD-ROM	Cross-references and Comparisons: subjects' perceptions project sites pre vs. post intervention Abstracts Audio-Visual Archives Abridged Documentation
Material	Video/Audio Tape Recordings: On-cam interviews Actualities Others	Digitized Video/Audio Recorded on CD-ROM	Computer Generated Video/Audio Clips Assembled/Edited Presentations
Hardware Requirements	Digital Video Camcorder Hi-8 Camcorder Super VHS Camcorder	Multi-Media System with Non-Linear Editing Capability Preferably with: Pinnacle Video Card MMX Microprocessor 260 MB RAM 26 GB Hard Disk Drive CD-WORM Presser Aver Video Editor	Multi-Media IBM-PC System (Pentium IV) Preferably with: Pinnacle Video Card MMX Microprocessor 260 MB RAM 26 GB Hard Disk Drive CD-ROM Drive
Software Requirements	Not Applicable	NUD.IST Authorware Mannequin Video Package Magic Package Progress dbase Package CD-WORM Operating System	NUD.IST Authorware Mannequin Package Magic Package Progress dbase Package CD-ROM Operating System

Chapter 5.

Ethnovideography as Technique

Instructional Objectives

After studying this chapter, the reader should be able to:

1. practice small format video techniques; and
2. follow the tips for the ethnovideographer

Chapter Outline

1. Small-Format Video Technique
 - 1.1. The Camcorder
 - 1.2. Care and Handling of the Camcorder
 - 1.3. Preparing for the Field
 - 1.4. Your Gear
2. Tips for the Ethnovideographer

SMALL FORMAT VIDEO TECHNIQUE

We shall start this session by again tackling the issue of quality. Many of our colleagues in the media profession equate small-format video with sub-professional standards of production. This attitude may be traced to a couple of roots.

Firstly, the small-format video hardware which manufacturers first placed on the market were meant for consumers, i.e., hobbyists and home movie enthusiasts. In still photography, this may be compared to the introduction of the cheap "user-friendly" range-finder or Instamatic cameras to the market. Indeed there was a very considerable difference in terms of image quality, resolution, color, sound and multi-generation performance. Today, however, there are a number of small-format models (Super VHS, Hi-8, and DV) whose picture quality and sound rival or exceed the old Umatic models.

Secondly, since the most pervasive application of video technology then was television, professionalism became equated with "broadcast-quality" productions. Hence, the general impression that if you do not use Quad, Type C or Umatic equipment, then you are not a professional. You are simply a hobbyist or worst, a small-time videographer who covers wedding receptions and birthday parties.

But to the ethnovideographer, digital video is a craft with certain standards that may in fact be much more demanding than what is required from the "professional." At any rate, one thing is clear. Professionalism should not be equated with broadcast-quality equipment. The former refers to an attitude while the latter involves picture and sound quality, which, incidentally, are also functions of the type of play-back, transmitting or receiving equipment. One is tempted to think that the only real advantage of Umatic and higher formats in development work is their multi-generation performance.

Essentially, small format video employs the same production techniques used in broadcast quality formats. The difference lies in the extent of improvisation and the level of sophistication. Small format video employs the former to the fullest and the latter to the least. Appendix E contains a training proposal on small format video technique.

The Camcorder

Camcorders of whatever make and model may generally be divided into the following parts: the lens; manual/ electronic camera controls; a built-in microphone; a viewfinder or the LCD monitor; the audio-video recording mechanism; VTR controls; a selector/power switch; a power supply system; connectors; and a battery pack. The camera controls include a focus ring, zoom control, iris control, white balance, stand-by switch and the trigger. VTR controls include the usual fast forward, rewind, play, pause, stop and record buttons. Connectors compose of audio-video input-output jacks.

Handling the Camcorder

To steady a camcorder one needs to have a firm grip, a good sense of balance and a stable stance. One could operate a camera efficiently while standing, kneeling, sitting, leaning and lying prone. These positions are demonstrated in the following figures. As a rule, try leaning against a solid object to keep your balance

Preparing for the Field

While the larger formats require a crew - a director, a cameraman, a VTR man, an audio engineer, a lights man, a props man, a production designer and two production assistants or gofers - small format video requires only two persons, each operating a camcorder. It goes without saying that, generally, the production values of people involved in small format video differ in terms of priorities with those involved in the larger formats. As stated earlier, production values in small-format video are considerably tempered by real world situations. Artistic merit is at times neglected in favor of social, economic as well as practical considerations.

Your Gear

The ethnovideographer should always be well prepared for field shooting. Aside from the hardware that you will take along, you need to be properly attired and equipped to ensure maximum maneuverability and application of camera technique. You should be "dressed for the occasion" so to speak.

Let us start with your foot gear. Stability in stance is required to achieve a good, steady shot with a hand-held camera. Hence, you need wide-soled, maximum-traction shoes. Basketball shoes are best for this purpose. However, these accumulate dirt very easily.

Experience dictates that the ideal foot gear for field shooting are high-cut ninja boots. Made from canvass and hard rubber, this footgear is durable and light. Its black (or dark blue) canvass legging serves as adequate protection against dirt, insects, leeches and amorseco blossoms. Its rubber sole is wide and grooved offering maximum traction. Stability and maneuverability is ensured by its separate-big-toe design. Unlike leather boots, it is easy to wear and very comfortable. Most of all it is very inexpensive (I bought my pair for one-hundred pesos in 1988).

A utility vest is also strongly recommended for the small-format video enthusiast. Utility vests range from light to heavy. Light material is preferred to assure you of maximum mobility and comfort.

In the field, it is always imperative to keep both of your hands free to handle the camera. Considering the various accessories that you need to bring along - video cassettes, battery packs, cables, filters, cleaners, light meter, etc - the numerous pockets on the utility vest prove extremely invaluable.

Headgear is also recommended, although some practitioners prefer to use the Muslim *tubao* or the thick bandanas sold cheaply in most markets. The *tubao* is ideal for small format video work. Believe it or not, it is water repellent enough to keep droplets of rain off, yet absorbent enough for other functions. It could double as a protective cover for the camcorder, particularly for protecting the white balance window against intense light. It could serve as a headband to keep the forehead sweat off the viewfinder; a towel; a scarf; and a dust mask. However, it is also wise to keep a white face towel (a favorite among video crew members is one which reads "Good Morning") handy at all times.

Other recommended accessories include a noose ball pen, a clip board for your cue sheets and a hard bound field journal that would fit snugly into your utility vest's back pocket. When shooting, never forget to bring along your press card or any identification that would justify your video documentation..

TIPS FOR THE ETHNOVIDEOGRAPHER

Always ID your shots before executing them.

Recording quick identification cues prior to shooting significantly reduces the amount of cataloguing, annotating or post-videography work involved. Ids may be done digitally, if the camera is equipped with a built in character generator.

Provide gaps in-between shots for easy editing reference.

A few seconds of lead-time before the shot would go a long way in facilitating shot cataloguing.

Use the telephoto lens sparingly.

The telephoto lens significantly reduces the depth of field. It also distorts the background by magnifying it, a condition known as the *telephoto effect*. Furthermore, using the telephoto exaggerates the unstable image produced by a handheld camera.

The wide-angle lens, on the other hand, exaggerates the foreground. However, we get a much more stable image with the wide-angle lens.

Don't be dependent on the tripod to get a steady image.

The tripod assists the ethnvideographer in getting a steady shot. However, we should not be dependent upon it since it constraints angling and camera movement. A mounted camcorder cannot respond immediately to an event or a process. Ideally, the ethnvideographer should train himself to achieve stable shots without the help of a tripod by having his body have three points of contact with the camcorder. This may include both hands and the brow that touches the eyepiece.

Visualize your shots before executing them.

To achieve good composition and framing, we should visualize our shots first.

Establish your settings before executing your shot.

Ideal camcorder settings such as the white balance, lens opening, shutter speed, and focus, should be established before executing the shot. Most camcorders come with automatic features. With an automatic digital camera, one need not worry about the white balance, lens opening and shutter speed. However, it is best to place the focus in manual mode and establish it on the subject's eyes. If the camera is in auto-focus, it would automatically change settings once an object comes in the foreground.

Avoid zooming out right after zooming in; panning left after panning right; tilting down after tilting up.

This tip is self-explanatory.

Advise your subjects to wear pastel colors instead of red or white.

Red blotches the image while white bleaches it. A subject dressed in white would look darker than he really is. The lens opening is automatically reduced since white reflects light. The camcorder responds in this manner to avoid overexposure.

Position yourself properly vis-à-vis the source of light.

The ethnovideographer's objective is to record reality, not to interpret it. Thus, he should try to achieve the most realistic lighting for his subject. This means that the camera should always be between the source of light and the subject.

Remember the "magic hour."

The so-called magic hour is between 5:30 to 7:30 in the morning and 4:30 to 6:30 in the afternoon. These times provide the best available lighting conditions outdoors for your subject. The best time to shoot is when daylight is subdued and shadows are not sharp.

Observe the rule of thirds applied to mobile subjects.

Divide your frame into nine equal frames: three on top, the middle, and at the bottom. The rule of thirds in photographic composition advises against putting your subject dead center in the frame, with too much headroom and an undetermined line of sight.

Strive to achieve depth through composition.

As much as possible, include a foreground and background in the frame to achieve a three-dimensional effect.

Avoid too much headroom in close-ups and medium shots.

Again, this tip is self-explanatory.

Avoid mutilating your subjects.

For extreme close-ups, not all of the subject's hair need be in the frame, but his chin should be. Middle shots should include the subject's arms. Full shots should include his feet.

Check your shooting environment and adjust accordingly.

Position the camcorder in such a way that the built-in microphone does not point towards the air conditioning unit indoors or the road outdoors.

Match your shots in terms of action and point-of-view.

Sequences in ethnovideography are usually shot edited. In other words, one is editing while shooting and vice-versa. This reduced the amount of work for post videography sessions. Hence, the series of shots constituting a sequence should match in terms of action and point of view of the viewer.

Although your repertoire of shots should be varied, master the fixed shot.

In ethnovideography, the fixed shot is employed seventy per cent of the time. This technique requires the subject's eyes to be at the level of the camcorder lens. A low angle shot, exaggerates the height of the subject and gives an impression of dominance. A high angle shot, reduced the height of the subject and gives an impression of inferiority.

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