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Institute of Tropics and Subtropics

Department of Economic Development

M.Sc. Thesis

Collecting-Processing-Use:

Traditional Knowledge on Rainforest Plant Resources through Eye of Visual Anthropology

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! ! !

Místo této strany vložíte zadání diplomové práce.
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! ! !

Declaration

I declare that I have elaborated my thesis independently only with the expert guidance of my thesis supervisor Ing. Vladimír Verner, Ph.D. and thesis consultant Ing. Zbyněk Polesný, Ph.D.

I further declare that this thesis and its intellectual content is my original work based on field research in Peruvian Amazon unless otherwise referenced. Any contributions made by my colleagues and co-workers are fully acknowledged.

In Prague, April 18, 2012 Pavel Borecký

Signature .....

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Abstract

„Collecting-Processing-Use: Traditional Knowledge on Rainforest Plant Resources through Eye of Visual Anthropology“

Main objective of the study was to examine the potential of visual anthropology in protection of traditional indigenous knowledge related to ethnobotany. The field research implemented interdisciplinary methods for audiovisual documentation of collecting, processing and use of selected NTFPs derived from the Amazon Rainforest and used by Asheninka indigenous people.

The results proved that the new approach is valuable in preservation of traditional knowledge whereby it directly or inderectly contribute to biodiversity protection, sustainable community development and indigenous rights. Since it was observed significant cultural deterioration in studied community, refering to request of the leaders, I recommend community-based development project focused on ethnic revitalization via marketing of NTFPs and transmission of traditional knowledge in younger generation.

Keywords: Asheninka people, ethnobotany, indigenous rights, non-timber forest products, Peruvian Amazon, rainforest, sustainable development, traditional knowledge, visual anthropology

Abstrakt

„Sběr-zpracování-využití: Tradiční znalosti ve využití zdrojů deštného pralesa okem vizuální antropologie“

Hlavním záměrem výzkumu bylo zhodnotit potenciál vizuální antropologie při ochraně tradičních indigenních znalostí vztahujících se k etnobotanice. Terénní výzkum propojil interdisciplinární metody s cílem audiovizuálně dokumentovat sběr, zpracování a užití vybraných nedřevních lesních produktů, které jsou užívány etnikem Ashéninků v Amazonském deštném pralese.

Výsledky prokázaly, že je tento nový přístup k zachování tradičních znalostí užitečný, jelikož přímo či nepřímo přispívá k podpoře biologické diverzity, trvale udržitelnému komunitnímu rozvoji i naplnění práv původních obyvatel. Jelikož bylo během výzkumu zjištěno, že v komunitě dochází ke kulturnímu rozkladu, navrhuji na základě přímé žádosti uspořádat lokální rozvojový projekt zaměřený na etnickou revitalizaci prostřednictvím podpory nedřevních lesních produktů a šíření tradičních znalostí mezi mladou generací.

Klíčová slova: Ashénikové, deštný prales, etnobotanika, nedřevní lesní produkty, peruánská Amazonie, práva původních obyvatel, tradiční znalosti, trvale udržitelný rozvoj, vizuální antropologie

“Every time a medicine man dies,

it is like a library burning down.”

Mark J. Plotkin (1993)

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List of Abreviations

AAA	American Anthropological Association
AIDESEP	Asociación Interétnica de Desarrollo de la Selva Peruana
AVCHD	Advanced Video Coding High Definition
CIER	Center for Indigenous Environmental Resources
CIFA	Centro de Investigación de Fronteras Amazónicas
CULS Prague	Czech University of Life Sciences Prague
DSLR	Digital Single-Lens Reflex camera
FAO	Food and Agriculture Organization of the United Nations
FPIc	Free, Prior and Informed consent
HD	High-definition
ICH	Intangible Cultural Heritage
ILO	The International Labour Organization
INDEPA	Institute for Development of Andean, Amazonian and Afro-Peruvians
ITS	Institute of Tropics and Subtropics
IUFRO	International Union of Forest Research Organizations
NGO	Non-governmental organization
NTFPs	Non-timber Forest Products
ORAU	Organización Regional AIDESEP Ucayali
RBI	Rapid Biological Inventories
UN	The United Nations
UNDP	The United Nations Development Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNU	Universidad Nacional de Ucayali

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1. Foreword

Having spent whole life amid figures and equations as mathematician could be on one hand fascinating adventure, on the other, if there is no connection with reality, society might ask, “What is it good for?” Certainly, the autonomy of oneself exists and people are more or less free to choose its occupation, however I would argue that people as social beings should strive to contribute to development of its societies. I am strongly convinced that especially cultural anthropologists should leave science-for-the-sake-of-science paradigm and bind closer to emerging problems cultures are undergoing.

If there are some to address current issues while providing stakeholders with understanding of complex socio-cultural circumstances, they are overlooked or simply rejected in the end. It has become a case of development projects where time management, economic viability or just lack of accountability has resulted in underestimation of cultural dimension. It is worth to mention that the Global North’s initiated official development cooperation is too often driven by economic and political means of donor, not by internationally recognized problems of the Global South. (Social Watch, 2011)

In this atmosphere, it is important to appreciate and support any form of grass-root movements, community based initiatives and general emancipation of vulnerable members of international community.

Popularization of indigenous issues, raising awareness closer to challenges these peoples are facing and looking for the ways how to empower them, these values have been the core of my master thesis since the very beginning.

To Czech public the research has become known as Expedition WAYVANA Peru 2011. Its explorative, yet socially-oriented, facet has helped Helena Kotková, Veronika Jelínková and I to raise interest as well as necessary funds over our fieldwork in Peruvian Amazon. Unfortunately, Veronika has finally decided to dedicate more time to Institute of Tropics and Subtropics‘s development project in Ethiopia and to support our efforts as consultant.

Field research took place from 6 September to 9 November 2011 in Peruvian Amazon. The main regional city Pucallpa, where we were warmly welcomed at local Universidad Nacional de Ucayali (UNU), partner of Czech University of Life Sciences Prague (CULS Prague), quickly became the natural base for preparatory phase. Under the helpful supervision of Jitka Krausová, MSc, doctorate student of the Institute, it was established cooperation with non-governmental organization (NGO) Centro de Investigación de Fronteras Amazónicas (CIFA) represented by Ing. Jorge W. Vela Alvarado, MSc.

It took next two weeks to obtain research permission of NGO working on behalf of Peruvian indigenous population - Asociación Interétnica de Desarrollo de la Selva Peruana (AIDESEP) and its regional office Organización Regional AIDESEP Ucayali (ORAU). Nevertheless, essential prerequisite for ethical conduction of ethnobotanical and anthropological survey was successfully obtained.

Respective data collection was designed regarding to intentions and preferences of researchers. Subject of interest of my colleague Helena Kotková has been focused on economical consequences in exploitation of non-timber forest products. Methodological framework therefore implemented quantitative analysis. My objectives were on the other hand related to cultural specifications in life of individuals with indigenous origin which is domain of qualitative anthropological research. As a result, both studies are complementary parts of more complex socio-ecological issue and reader ought to discover both of them.

The form of this thesis defends the fact that in postmodern social sciences text is not the only vehiculum for accumulation of scientific knowledge. Enclosed DVD contains short visual ethnobotany films describing collecting, processing and use of chosen species including section with ethnobotanical photographs. This section is integral part of the thesis and it is supposed to be evaluated as one of its results. The structure is elaborated more into details in chapter 6. 4. Ethnobotanical knowledge of Asheninkas.

Transcription of Asheninka language, local names, vernacular and scientific names are made in italics. Citation and references are based on norm ČSN ISO 690 (01 0197) regularly used within CULS Prague.

2. Introduction

"Traditional knowledge can provide us
with deeper understanding of the role of rainforest,
use of its richness and diversity in life of indigenous peoples." (Balee, 1995)

Since prehistory, societies around the world have used products derived from forest species for their survival and well-being. In Peru by the 1940's a road built between Lima and the river Ucayali put indigenous inhabitants in touch with the rest of the country and brought along thousands new settlers with their dominant culture. One of the most serious threats has become injudicious development represented by massive growth in using extensive "slash and burn" agriculture technique in Amazon Rainforest. Without a proper fallow period and crop rotation the soil fertility is diminishing in the course of years and fields are turning into so-called green deserts with *Imperata* grass weed (Lojka and Preininger, 2006; Jeník, 2009). It gradually leads to cultivation of new forest areas and spinning out of never-ending circle.

There is alternative for gaining sustenance. In recent decades, interest of development experts has grown in so-called on-timber forest products (NTFPs) as an alternative to clear-cut logging. Compared to timber, sustainable harvesting of NTFPs seems to be possible without major damage not only to the forest, its environmental and biological services, but evolving societies itselves. People all over the world harvest such a type of forest production for household subsistence, earning income, enhancing cultural and family traditions, raising spiritual contemplation and maintaining physical and emotional well-being (Pimentel et al., 1997). They collect it thanks to traditional indigenous knowledge which is "specific system of unique knowledge and practice, developed and accumulated over generations within a particular cultural group and region," (UNEP, 2008). Indigenous ethnics of Amazon Rainforest represent source of knowledge under the threat of irreversible changes in natural environment and likewise ongoing cultural assimilation accompanied by oblivion of orally transmitted inheritance.

3. Study Background

Ethnobotanist William Balee in his remarkable book Footprints of the Forest described precisely what must stay in the center of historical ecology, new science which fundamentals he helped to establish, "[…] to document the historical and ecological foundations of the total relationship between an Amazonian peoples and the plants that not only surround them but also to a large extent have shaped their culture," (Balee, 1995). This visionary standing point is very valuable since it links together historical, anthropological and ethnobotanical perspective. Ecological and cultural aspects must be scrutinized altogether in order to understand how cross-influential might they be either in terms of human management of surrounding environment or evolution of whole societies around ecological system.

Bennett (1997) searched for contemporary definitions of ethnobotany. Some of notable ones are cited below:

1) Schultes in 1992, „[…] the complete registration of the uses and concepts about plant life in primitive societies."
2) Turner in 1995, „Ethnobotany is the science of people's interaction with plants."
3) Balick and Cox in 1996, „[…] the study of the interactions of plants and people, including the influence of plants on human culture."

However, in late 1990s, ethnobotany was still just about to properly adopt methodology of cultural anthropology as reflected by Bennett, "Ethnobotany typically lacks an explicit theoretical orientation. The botanical list makers are unspoken functionalists. Their focus lies on plants that meet some physical or other human needs. Seldom do they consider the approaches of cultural anthropology," (Bennett, 1995). Even renowned ethnobotanist Miguel N. Alexiades was not deliberately advocating adoption of new methods and he cautiously suggested that, "Fieldworkers commencing research in an area should review the ethnographic literature pertinent to the groups with which they will be working," (Alexiades, 1996). It was still far from incorporation of qualitative methods common in social sciences.

3.1. Potential of Traditional Knowledge and NTFPs

Broader recognition of traditional knowledge as, “specific system of unique knowledge and practice, developed and accumulated over generations within a particular cultural group and region,” has made adoption of culture-oriented approaches by ethnobotanists irrevocable (UNEP, 2008).

It was enhanced by growing acknowledgement of NTFPs (or exchangeable Non-wood Forest Products), “[…] as products of biological origin other than wood derived from forests, other wooded land and trees outside forests. […] It includes products used as food and food additives (edible nuts, mushrooms, fruits, herbs, spices and condiments, aromatic plants, game), fibers (used in construction, furniture, clothing or utensils), resins, gums, and plant and animal products used for medicinal, cosmetic or cultural purposes,” (FAO, 2008).

Even very recently, Christian Gamborg (2011) cited IUFRO Colfer’s publication Forests in the Global Balance, „Traditional knowledge […] represents a vastly under-recognized and underutilized global good. If addressed respectfully, its increased recognition by the forestry community (and others) has the potential to improve conservation and development efforts, to protect and strengthen traditional ways of life (including livelihoods and rights to land), and to increase the prestige and feelings of self-worth among forest peoples.“ Traditional knowledge is not only related to forest, however, it is especially important right there as being result of intense relationship of ecologically as well as culturally most diverse environment. According to American geographer David S. Salisbury (2010) it hosts, “[…] 70 % of the world’s floristic and faunistic species, and over 1,000 unique ethnic groups.”

Interesting discussion developed around net value of extracted NTFPs. Herbalist Dr. Leslie Taylor (2004) underlined attempts of American ethnobotanists who calculated that fruit of long-lasting bond between people and nature, traditional knowledge of NTFPs extraction, has higher economical potential than Amazon timber, „It is estimated that sustainable harvesting of one acre of Peruvian Amazon rainforest can produce over 2,400 USD annually. In contrast, clear-cutting for timber nets only 400 USD per acre.“

Prior to this statement, Gram and Kvist gave a warning, „[…] Studies of the quantities and values of natural forest products have been plagued by inaccuracies. […] Often, the studies do not include both flora and fauna products and, as a rule, the studies of flora do not include both timber and non-timber products, nor do studies of fauna include both fish and game. The studies seldom include both market products and products for domestic use only, nor they do cover a whole year cycle," (Gram et al., 2001). They have urged for methodological clarification as stronger basis for proper policy making and sustainable development.

Nevertheless, ethnopharmacologist Rainer W. Bussmann (2006) pointed out one important facet of day-to-day life with international impact, "Traditional medicine is used globally and has a rapidly growing economic importance. In developing countries, traditional medicine is often the only accessible and affordable treatment available."

Around the world, 36 specialized traditional knowledge centers exist nowadays. These centers generally cope with issues such as biodiversity, climate change, community planning, conservation of traditional knowledge or renewable energy (Kivu Nature, 2011). As this adoption of concealed knowledge seems to be promising, scholars however indicated three significant problems, „there is considerable potential for misappropriation of such knowledge and its eventual loss by the original holders," (e.g. Agrawal, 1995; 2002; UNEP, 2008; Gamborg, 2011). Moreover, „there is increasing evidence that there is a serious lack of recognition by users of the rights of indigenous peoples and other holders of such knowledge," (Ramakrishnan et al., 2000; Laird, 2002). Last but not least, "methods for studying and documenting traditional knowledge derive from the social sciences. However, many forest scientists are not familiar with methods and approaches used in the social sciences. As a consequence, they may fail to acquire information from the holders," (Gamborg, 2011).

Additionally, Kivu Nature web pages summarized 47 active links to most important initiatives either affiliated to universities and research institutes or run by indigenous peoples themselves. Deep review of these projects revealed that none of them has ever undertaken ethnobotanical research in order to preserve methods of collecting,

processing and use of NTFPs by using visual anthropology. It has been supported by searching in recognized on-line Center For Indigenous Environmental Resources Library (CIER) which resulted in 162 articles with keyword „indigenous knowledge“, 106 articles with „traditional knowledge“ and only seven were tagged as anthropological (CIER Library, 2012).

As far as I know, there is an underutilized potential in involvement of visual anthropologist in interdisciplinary research and utilization of audiovisual methods by ethnobotanists themselves. Rebekah J. M. Fuller (2007) in Ethnobotany Research & Applications explicitly stated, „Articles on how to apply video to ethnobotanical research are generally absent from ethnobotanical literature.“

3.2. Visual Anthropology - At the verge of the Worlds

The scope of the background does not allow me to cover whole development of visual anthropology. Nevertheless, since I consider the understanding to its specific nature essential, let us to define its thresholds and quote most influential academics.

In late 1960s, newly developed technologies and disintegration of colonial structures let to redefinition of anthropological methods. “It was a crucial period […] in which the foundations of visual anthropology were laid,” explained Paul Hockings (1995).

Life of Jean Rouch might be summarized basically as living at the verge of the worlds. Not only French one which was inevitably part of his cultural “backpack” and those diverse worlds he had been visiting in 20th century with movie camera, but furthermore in between impermeable fields of art and science. “Filmmakers tended to consider him more ethnologist than filmmaker and austere community of scientists perceived him more as an artist,” as lucidly wrote movie historian David Čeněk (2004). Jean Rouch has become one of the most overlooked auteurs in cinematography being somewhat bitterly acknowledged by both worlds.

“Westerners popularly conceive of art as and interpretation of reality and science as a mirror of reality, and as a consequence, only two major schools of pictorial communication theories have developed - the formalist and the realist. Neither of these

theories is useful for a visual anthropology," reflected in year 1976 one of the first theorist of visual anthropology Jay Ruby.

The popular critic of art history Ernst H. Gombrich stated in The Story of Art, "There is really no such thing as Art. There are only artists," (Gombrich, 1995). One might draw the parallel for science saying there is no such thing as science. There are only scientists who establish the borders of discipline, who test new methods and do not adhere to outdated theories which no longer correspond to reality. Neither art, nor science is out there. People must be responsible and reflexive on their own as later on defended by Jay Ruby.

At the beginning, visual anthropology was build upon Heider's influential classification of ethnographic film (1976), "[…] which reflects ethnographic understanding. […] Film is the toll and ethnography is the goal. […] Ethnography is a way of making a detailed description and analysis of human behavior based on a long-term observational study on the spot. […] If ethnographic demands conflict with cinematographic demands, ethnography must prevail. […] In audiovisual terms, it depicts "whole acts," "whole bodies," "whole interactions," and "whole people" to preserve the integrity of the cultural context."

As evolution of interconnected art/science methodology proved, cultural context might be preserved even without rigid restrictions in visual composition. Tomáš Petráň in Ecce Homo (2011) condensed, "Pure ethnographic concept as objective scientific record can not be fulfilled in film because it operates with different types of symbols including specific pictures-affects and pictures-actions. It predetermines film for more general and symbolical expression. […] As such, in form of documentation from field research, it is a subject of following analysis (audiovisual recorder), however, primarily it is direct form of data processing and vehiculum for publication of research results."

Long-awaited proclamation was made by the American Anthropological Association (AAA) Executive Board on 28 November 2001 in following statement, "Ethnographic visual media (specifically film, video, photography, and digital multimedia) play a significant role in the production and application of anthropological knowledge and form an integral part

of the discipline's course offerings. Anthropologists involved in the production of visual works make valuable scholarly contributions to the discipline," (AAA Statement, 2001).

Important contemporary contributions to the discipline made especially Jay Ruby urging for reflexivity, Sarah Pink with sensoriality and David MacDougall's concept of „corporeal image".

In chapter Exposing Yourself: Reflexivity, Anthropology and Film Jay Ruby (2000) insisted that, „Social scientists use the passive voice and the third person. […] The literary devices of the passive third person cause statements to appear to be autorless, authoritarian, objective, and hence in keeping with the prevailing positivist philosphies of science. […] Anthropologists as well as others who make representations should stop being shamans of objectivity. […] Anthropologists should systematically and rigourously reveal their methods and themselves as the instrument of data generation and reflect upon how the medium through which they transmit their work predisposes readers/viewers to construct the meaning of the work in certain ways."

"Interest in sensory and emotional aspects of culture is increasingly central to the social sciences and humanities because it has been acknowledged that sensoriality is fundamental to how we learn about, understand and represent other people's lives," (Pink, 2009). Senses and emotions with non-positivistic approach started to be in center of the discipline as well as more participatory tendency, "The use of a video camera encourages a research participant to engage physically with their material and sensory environments to *show* the ethnographer their experiences *corporeally,"*reflected Sarah Pink (2009, original emphasis) on concept of David MacDougall „corporeal image".

"The aim is to reach the kind of anthropological knowledge in which meaning is not merely the outcome of reflection upon experience but necessarily *includes* the experience […] the experience is the knowledge," (MacDougall and Taylor, 1998, original emphasis).

As stated by many scholars namely Tomáš Petráň (2011), "We live in era when more than any time in human history visuality matters as a source of illustration, information, politics, provocation, joy and pleasure at the entire worldwide scale."

3.3. Cultural Rights of Indigenous Peoples

There is, however, another endeavor which is expected to build its foundations on solid findings of all above mentioned ones - development. The World Bank's Initiative on Indigenous Knowledge operates, "[…] on the assumption that indigenous knowledge is an underutilized resource in the development process, and that therefore a database of indigenous knowledge practices and lessons should be created," notified Arun Agrawal (2002) professor at the School of Natural Resources & Environment at the University of Michigan. Moreover, Brendan Tobin (2001), former consultant of Peruvian Environmental Law Society, highlighted significance of law, "Any process for development of a regime to protect traditional knowledge must be guided by international human rights law."

In this chapter we will emphasize imperative articles of international treaties regarding to protection of cultural rights.

3.3.1. ILO Convention 169

The General Conference of the International Labour Organization (ILO) adopted at its 76th session on 27 June 1989 Convention 169 which may be cited as the Indigenous and Tribal Peoples Convention. The convention was ratified by Peru in 1994 (Convention 169, 1989). Until today, it is the core international legally binding document protecting especially property rights of indigenous peoples.

Article 1. 2. Self-identification as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups to which the provisions of this Convention apply.

Article 7. 1. The peoples concerned shall have the right to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual wellbeing and the lands they occupy or otherwise use, and to exercise control, to the extent possible, over their own economic, social and cultural development.

Article 13. 1. […] Governments shall respect the special importance for the cultures and spiritual values of the peoples concerned of their relationship with the lands or territories.

Article 22. 3. Any special training programs shall be based on the economic environment, social and cultural conditions and practical needs of the peoples concerned.

Article 23. 1. Handicrafts, rural and community-based industries, and subsistence economy and traditional activities of the peoples concerned, such as hunting, fishing, trapping and gathering, shall be recognized as important factors in the maintenance of their cultures and in their economic self-reliance and development. Governments shall, with the participation of these people and whenever appropriate, ensure that these activities are strengthened and promoted.

Article 23. 2. Upon the request of the peoples concerned, appropriate technical and financial assistance shall be provided wherever possible, taking into account the traditional technologies and cultural characteristics of these peoples, as well as the importance of sustainable and equitable development.

Article 27. 1. Education programs and services for the peoples concerned shall be developed and implemented in co-operation with them to address their special needs, and shall incorporate their histories, their knowledge and technologies, their value systems and their further social, economic and cultural aspirations (Convention 169, 1989).

3.3.2. UN Convention for the Safeguarding of Intangible Cultural Heritage

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) at its 32nd session in Paris on 17 October 2003 adopted the Convention for the Safeguarding of Intangible Cultural Heritage (UNESCO, 2003). No binding multilateral instrument existed until then for the safeguarding of the intangible cultural heritage.

UNESCO definition of Intangible Cultural Heritage (ICH), „[…] the practices, representations, expressions, knowledge, skills - as well as the instruments, objects, artefacts and cultural spaces associated therewith - that communities, groups and, in some cases, individuals recognize as part of their cultural heritage," (Convention for the Safeguarding […], 2003).

This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

UNESCO in Annex considers the importance of the intangible cultural heritage, "[…] as a mainspring of cultural diversity and a guarantee of sustainable development, recognizes deep-seated interdependence between the intangible cultural heritage and the tangible cultural and natural heritage and considers the need to build greater awareness, especially among the younger generations, of the importance of the intangible cultural heritage and of its safeguarding," (Convention for the Safeguarding […], 2003).

Article 11. a) Each State Party shall take the necessary measures to ensure the safeguarding of the intangible cultural heritage present in its territory.

Article 11. b) Each State Party shall foster scientific, technical and artistic studies, as well as research methodologies, with a view to effective safeguarding of the intangible cultural heritage, in particular the intangible cultural heritage in danger.

Article 16. 1. In order to ensure better visibility of the intangible cultural heritage and awareness of its significance the States Parties concerned, shall establish, keep up to date and publish a Representative List of the Intangible Cultural Heritage of Humanity and List of Intangible Cultural Heritage in Need of Urgent Safeguarding.

Article 18. Committee shall periodically select and promote national, subregional and regional programs, projects and activities for the safeguarding of the heritage which it considers best reflect the principles and objectives of this Convention, taking into account the special needs of developing countries.

Article 25. A "Fund for the Safeguarding of the Intangible Cultural Heritage" is hereby established (Convention for the Safeguarding […], 2003).

3.3.3. UN Declaration on the Rights of Indigenous Peoples

The Declaration on the Rights of Indigenous Peoples was adopted by the General Assembly on 13 September 2007 by a majority of 144 states in favor, 4 votes against (Australia, Canada, New Zealand and the United States) (UN Declaration […], 2007).

Conventions are legally binding instruments under international law; on the contrary, declarations serve mainly as political announcement without legal ramification. „They represent the dynamic development of international legal norms and reflect the commitment of states to move in certain directions, abiding by certain principles," (Declaration […] FAQ, 2007).

United Nations in the document concerned that, "Indigenous peoples have suffered from historic injustices as a result of, inter alia, their colonization and dispossession of their lands, territories and resources, thus preventing them from exercising, in particular, their right to development in accordance with their own needs and interests." Furthermore, United Nations considered that, "The rights affirmed in treaties, agreements and other constructive arrangements between States and indigenous peoples are, in some situations, matters of international concern, interest, responsibility and character," (UN Declaration […], 2007).

Article 8. 1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.

Article 11. 1. Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures.

Article 16. 1. Indigenous peoples have the right to establish their own media in their own languages and to have access to all forms of non-indigenous media without discrimination.

Article 19. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their Free,

Prior and Informed consent (FPIc) before adopting and implementing legislative or administrative measures that may affect them.

Article 23. Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development.

Article 24. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals.

Article 29. 1. Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programs for indigenous peoples for such conservation and protection, without discrimination.

Article 33. 1. Indigenous peoples have the right to determine their own identity or membership in accordance with their customs and traditions. This does not impair the right of indigenous individuals to obtain citizenship of the States in which they live (UN Declaration […], 2007).

All mentioned international treaties agreed upon inherent right of indigenous peoples to decide their own future (FPIc), recognized importance of community land protection, criticizes social and economical marginalization and urged for state responsibility to provide sustainable development while asked for cooperation.

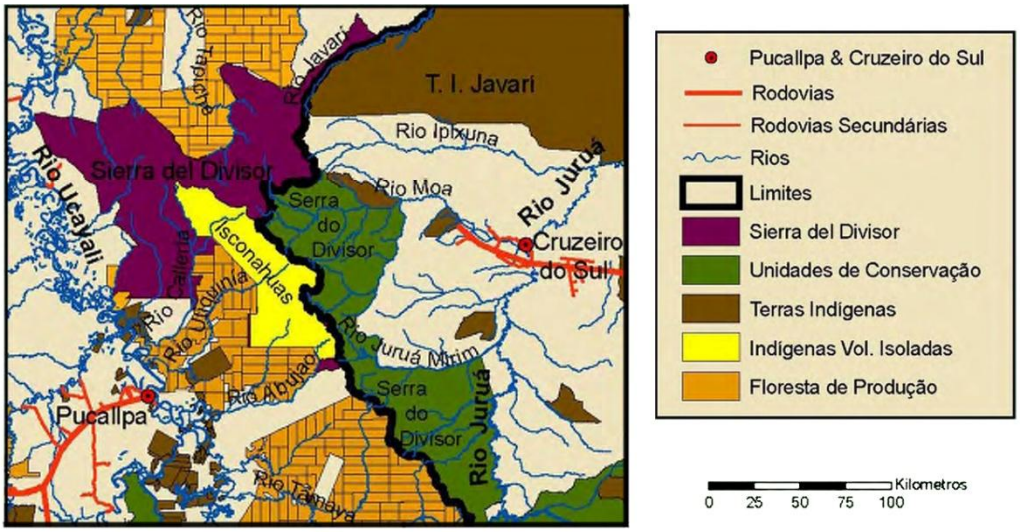
These guidelines are tight to advocacy for systematic safeguarding of valuable cultural features under the threat of oblivion. I find the most important the recognition of interdependency between cultural and natural heritage. Cultural preservation and natural conservation might presumably have mutual synergic effect. In conclusion, even though funds for allocation of resources have been raised, only changing preferences of young generation will decide whether the heritage passes to successors or remains forgotten.

3.4. Sierra del Divisor and its Inhabitants

Even though, we might put credibility of official statistics into question, Peruvian Institute for Development of Andean, Amazonian and Afro-Peruvians (INDEPA) counted total indigenous population of Peruvian Amazon to 320,000 individuals consisting of 65 ethnic groups speaking with 58 distinctive languages (14 ethnolinguistic groups) (INDEPA, 2010).

The Ashaninkas (88,700 individuals) and their close relatives Asheninkas (8,700 individuals) are relatively numerous (INDEPA, 2010). They belong to the Arawakan ethnolinguistic group and dwell in the Peruvian *selva central*, with some territorial extensions going across the Brazilian border. “Peruvian people usually deem them to be very rebellious. Their history is strewn with wide armed uprisings, and for a long time they fought quite successfully against repeated colonization endeavours undertaken by the Peruvian state, by the Spanish conquistadors and missionaries,“ cited Lenaerts (2006a) words of Rojas Zolezzi and Varese.

Threat for biocultural diversity of the region is not only coca (*Erythrolxylum coca*) cultivation and trafficking but resource extraction (in Map 1 orange areas), pasture expansion, road building and gold mining (Salisbury and Fagan, 2011). These activities generally conflict with *zona reservada* Sierra del Divisor and *reserva territorial* Isconahua (1,48 million ha) which protect the portion of eastern Peru between the Ucayali river and the Brazilian border and serve as haven for uncontacted tribe of Isconahua people (in Map 1 purple and yellow area) (Peru: Sierra del Divisor, 2006).



Map 1: CIFA (Salisbury) - Regional map

National park Serra do Divisor in Brazil (1,49 million ha, in Map 1 green area) shares a border with the *zona reservada* Sierra del Divisor and creates a binational protected area of nearly 3 million hectares (Peru: Sierra del Divisor, 2006).

In 2006 the international mission led by The Field Museum used at Sierra del Divisor methods of Rapid Biological Inventories (RBI), „[…] to catalyze effective action for conservation in threatened regions of high biological diversity and uniqueness," (The Field Museum, 2006). The recommendations were as follows:

„Sierra del Divisor is a priority for both conservationists and indigenous groups (e.g. Shipibo-Conibo, Asheninkas, Cocama-Cocamilla, Capanahua): the region harbors unique species and geological formations and populations of voluntarily isolated indigenous peoples. […] Protection of the *zona reservada* is urgent. Accelerating fragmentation of the region by roads, mining, oil exploration, and development constitutes an irreversible threat. […] Communities bordering the *zona reservada* strongly support protection for the area and its resources. […] Transmission of knowledge, local technologies, and cultural values to younger generations in the Sierra del Divisor region should be recognized explicitly as an asset, and fostered in the future via collaboration with local communities in development of locally based protection and management plans," (Peru: Sierra del Divisor, 2006).

One of bordering communities is Asheninka *comunidad nativa* San Mateo (in Map 1 purple spot at the end of Abujao river). The whole region is covered by primary tropical rainforest. Terrain of the reservation is hilly with altitude ranging from 200 to 590 metres (ONERN, 1979).

According to Marc Lenaerts (2006a), „The Shipibo informants had identified much fewer plants by name or use (87,6 %) and recorded far fewer uses (86,1 %) than the Asheninka themselves (respectively 98,7 % and 97,0 %), and actually they maintain less everyday contact with the forest." Therefore, I have prefered smaller isolated community of Asheninkas instead of numerous Shipibos-Conibos.

4. Objectives of the Research

There is a growing discussion among scientific community on socioeconomic dynamics that has been changing traditional knowledge of rural and/or indigenous communities (Dofour, 1990; Agrawal; 1995; 2002; Tobin, 2001). Assuming that considerable part of traditional knowledge is expressed in daily practice as visible and audible activity of acculturated beings, the idea has emerged to broaden descriptive textual methods with more direct form of *time encapsulation* - filmmaking. There are several documentary approaches but application of visual anthropology methods on interactive relationship between environment and indigenous peoples has not yet been sensitively examined by ethnographic filmmaking despite the fact that this approach goes beyond documentation.

In my research, I have decided to distinguish between two main set of goals as related to cultural and methodological dimensions. For every category the specific scientific questions were raised.

4.1. Cultural Dimension

In cultural sense, I will examine the potential of visual anthropology in protection of traditional knowledge as Intangible Cultural Heritage. In broader point of view, the goal is to contribute to protection of cultural diversity.

Thus, the first objective of the research was the audiovisual documentation of collecting, processing and use of selected NTFPs derived from the Amazon Rainforest and used by Asheninka indigenous people.

I have projected first dimension into additional set of following scientific questions:

1) *In what extent is Asheninka aware of rainforest's socio-economical importance for their life?*
2) *How do Asheninka nowadays value traditional knowledge?*
3) *What are the phenomena causing loss of traditional knowledge in Asheninka community?*

4.2. Methodological Dimension

Based on interdisciplinary approach binding together methods of ethnobotanical and qualitative anthropological research which are still not fully acknowledged by ethnobotanical scientific community (see e.g. Ruby, 2000; Fuller, 2007; Petráň, 2011; Gamborg, 2011) or not even broadly recognized within the scope of methods for data collection (Thomas et al., 2007; Fuller, 2007), the second dimension was considered equal to the first one in terms of importance.

The second objective was therefore reflexive evaluation of employed methods used for meeting goals of the first dimension. The thesis unreservedly describes and discusses all findings and indicates observed impacts and limits of the study.

Particular scientific questions were formed as follows:

1) *How will Asheninka react being shot by camera and shown referential photographs?*
2) *Are methods of visual anthropology applicable for preservation of traditional knowledge?*
3) *What are advantages and disadvantages in utilization of visual anthropology methods in the context of ethnobotanical research?*

Summarizing the study background and its objectives, the intention was to participate in Asheninkas' ordinary life in San Mateo community, Ucayali province, 180 km eastwards off Pucallpa city (Quintana, 2008). Furthemore, to accompany key informant, local medicine man or woman, in order to examine collecting, processing and use of chosen NTFPs. Totally, data collection took place during period from September until the beginning of November 2011. Altogether with findings associated to activities of other Asheninkas as related to utilization of rainforest products, the thesis will attempt to widen our understanding of changing relationship between people and its traditional environment.

5. Methodology

Interdisciplinary approach was based on long-term study and personal communication with reputable scholars. Consultation with cultural anthropologist Ludmila Škrabáková (Škrabáková, 2011, pers. comm.) who has already accomplished six primary field researches focused on indigenous peoples in countries such as Venezuela or Peru (Amazonica, 2010) was accompanied with number of informative meetings within academic milieu of CULS Prague. Not including thesis supervisor, among the others there were Zbyněk Polesný, Ladislav Kokoška, Bohdan Lojka and Petr Kokaisl. Two firstly mentioned researchers provided me with essential ethnobotanical knowledge partly throughout university subject, partly throughout furnishing me with necessary literature and suggestions during personal sessions, respectively. Ecological perspective of complex Amazon environment was gained along with Bohdan Lojka's agroforestry subject and personal meetings. Person worth to credit as well is Petr Kokaisl whom, as my former supervisor of bachelor thesis and coach of student scientific research in Eastern Europe (Projekt Krajané, 2008), was discussed on anthropological perspective and set of methods.

Taking into account the interdisciplinary nature of the research, in-depth conceptualization phase was conducted in order to prepare relevant methodology. Given that certain methods may overlap from one field to another, I would like to elaborate more about anthropological and ethnobotanical elements of methodology.

5.1. Qualitative Anthropological Research

As relevant for all sciences as accurate for anthropology, evolution of its subfield cultural anthropology has been paved by changing methodology. Every researcher is thus obliged to choose suitable and ethical methods out of recognized range as defined by Kottak (2009). Petr Kokaisl describes the division of methods according to scale of data, "Surveying and assessing distinctive data might be distinguished into two big groups: quantitative and qualitative. In case of quantitative information it consists of figures ready to be scrutinized in tables or graphs. On the other hands qualitative methods are used for surveying of different facts which are reaching out of tables. […] Qualitative research focuses deeper into problem than quantitative approach. Such a research can be done only at smaller group. […] Deeper we dig, smaller the sample," (Kokaisl, 2007).

Additional argument is given by Věra Majerová in Qualitative Research in Rural Sociology and Agriculture (Majerová and Majer, 1999), "In terms of data transformation, quantitative research produces high reliability and low validity of standardized data. In contrast qualitative research is characterized by almost no standardization with low level of reliability and high level of validity." In this sense, sociology and anthropology share notion of validity which means that a certain result corresponds to reality; and notion of reliability which means that under similar circumstances one can obtain similar results.

The essence of traditional knowledge and its role in society lies deeper than wider and validity of such a research is more significant than its reliability. As a result qualitative attitude serves needs of the study more properly.

Out of Kokaisl's (2007) and Kottak's (2009) books, it was chosen following set of methods:

1) participatory observation;
2) semistructured and unstructured in-depth interview;
3) "snowball" method;
4) focus group;
5) ethnography;
6) audiovisual methods.

To avoid any terminological ambiguity I will shortly refer to the set of methods as described by Věra Majerová. During participatory observation researcher is literally becoming a part of the every-day life of studied group of people. Using unstructured interview researcher interacts with respondent while not having exact plan of issues or having just list of primary topics as in case of semistructured form. So-called snowball method was used to test the relevancy of respondents through theirs peer recommendations of new informants. In focus group setting, researcher was transformed into moderator or catalyst of discussion among group of people (Majerová, 1999). Ethnograpy, as a qualitative research method, was aimed to learn and to understand cultural phenomena which reflect the knowledge and system of meanings guiding the life of a cultural group (Geertz, 1973; Kottak 2009). Data obtained throughout all above mentioned practices must be recorded because human memory has no capacity to store increasing portion of information forever. In order to materialize vanishing memories, to reflect upon and convert them into words, anthropologists has been using notebook for field notes since the dawn of the discipline. Even today, it is one of the very basic tools, however new methods have started to draw attention of the professional community.

In the framework of sub-field of cultural anthropology - visual anthropology, video camera is considered highly specific mediation tool which is able to depict observed processes extremely realistically. It means that moving images are getting closer than any other medium in past to represent reality without possible distortion in verbal meanings. Petráň (2011) perceives its potential even largely, considering Hi-tech lightweight motion picture camera with universal lens and contact sound recording not only as a recording machine. “Moreover, it is the tool offering mode for thinking of processes sculpting in time,”(Petráň, 2011). Scientific discourse is, of course, not that consistent as it is more discussed in chapter 3.2. Visual Anthropology - At the verge of the Worlds. However, one of the objectives of the thesis is to test this tool in ethnobotanical research. During the research, Sony HXR-NX5 camera was used. This equipment offered full high-definition (HD) image, wide angle 20x Sony G-Lens, tapeless memory stored in AVCHD format (HXRNX5U, 2005). In order to photograph static situations I have enhanced my equipment with digital single-lens reflex camera (DSLR) Canon 400D with objective Tamron SP 17-50.

In order to obtain proper results within qualitative approach, it is necessary to create relationship of mutual confidence between "newcomer" and local participants. Leading figure of contemporary Norwegian anthropology Thomas Hylland Eriksen in his book Social and Cultural Anthropology in this regard noted, "[…] generally speaking, anthropologist suppose to conduct his or her fieldwork as long as local residents and participants consider his or her presence as more or less "natural", even though researcher remains outsider forever, to certain extent," (Eriksen, 2008).

5.2. Ethnobotanical Research

Following the rules of qualitative anthropological research I have complemented the design with sound and appropriate ethnobotanical set while using scientific literature as elaborated below and professional suggestions of respected scholars. Arrangement is summarized as follows:

1) participatory approach;
2) Walk-in-Woods;
3) *ex-situ* and *in-situ* interview;
4) referential photographs;
5) audiovisual methods.

Alexiades, in his influential book Selected Guidelines for Ethnobotanical Research, encourages other ethnobotanists to integrate local people into course of fieldwork actions by applying participatory approach. "In this context, the researcher is seen as facilitator who helps channel people's knowledge and creativity into the research process," (Alexiades, 1996). Additionally, he underlines a responsibility to communities with whom they, foreign visitors, interact and work. Since it can not be granted that paradigms coming from outside could naturally work for good of residents, discussion with local people over established goals, applied methods and presumed outputs must be stimulated with the intention of giving them right to include their own perspectives, to negotiate formal or informal compensation and to decide how to record and publish unpublished knowledge. Last but not least, emphasis on flexibility, reflexibility and open-mindness is clearly stated.

Quite matching quip is coming to my mind which condensates what Alexiades was trying to share with ethnobotanical community. Investigators should not only work *along* local participants but *with* them and for their good. At this point, applied sciences share common humanistic values.

Because understanding knowledge about already known species lies in heart of the exploration and objectives of the research are therefore neither collection of fresh material for voucher specimens, nor identification of ethnobotanical sampling yield, it was not necessary to use any quantitatively-driven technique. Two valuable approaches were identified in this respect: Walk-in-Woods and audiovisual documentation of plant practice, both accompanied with *ex-situ* and *in-situ* interview.

"During Walk-in-Woods ethnobotanical information is collected about those plants that are specifically indicated as being useful by accompanying participant. […] After participatory observation, the most direct and reliable method to obtain ethnobotanical information is to interview participants *in situ* ("on the spot during plant collection") […] The primary advantage of *ex situ* interviewing ("away from the collection site of plants") is that, in a given period of time, more participants can be involved because interview are usually held within the village or home environment," as described by Evert Thomas in the article What works in the Field? (Thomas et al., 2007).

Acquiring information in textual and visual form about plants selected by indigenous peoples will be interconnected with second approach. Due to immense Amazon flora, for qualitative audiovisual documentation of plant practice there is necessary condition in species pre-selection. Assortment of the pre-selected species of special importance was done according to the studies of Lars Peter Kvist (2001) and Patricia Roxana Vidal Quintana (2008). First survey was focused at Lower Ucayali region, district Jenaro Herrera and second one included San Mateo community, district Coronel Portillo.

Following twelve NTFPs were evaluated by informants as highly valuable sources in life of indigenous population of Central Eastern Peru:

Aphandra natalia, Cedrela odorata, Ceiba pentandra, Copaifera paupera, Croton lechleri, Euterpe precatoria, Heteropsis linearis, Minquartia guianensis, Perebea humilis, *Scheelea brachyclada, Spondias mombin, Uncaria tomentosa*.

Audiovisual methods are at the verge of broader recognition by ethnobotanical community. (Fuller, 2007) It is one of the objectives of this thesis to test their use in field work. "Our findings demonstrate the usefulness of photographs in ethnobotanical interviews. Furthermore, we suggest that in some cases using photographs as props for interviews can be a better alternative than voucher specimens, particularly when research is conducted in remote and isolated study site," as concluded by Evert Thomas in Economic botany article with subtitle A Comparison of Different Interviewing Methods in Ethnobotany with Special Reference to use of Photographs (Thomas et al., 2007).

Along with his findings and prior to inception of my own field investigation, the file of twelve referential photographs related to selected species was made in order to induce smooth on-location understanding and precise identification by local participants. The record consisted of scientific as well as vernacular names commonly used in Western Amazon, photographs depicting bottom-up or distant full view, close-up of leaf, bark, fruit and inflorescence. Relevant images as outputs of completed ethnobotanical surveys were incorporated only if renowned on-line database Tropicos.org provided available material (Missouri Botanical Garden, 2011).

"Audio and video recorders can become valuable projective and educational aid serving to elicit responses from other informants or encouraging reassessment of local knowledge. […] There might also be certain subjects that people feel reluctant to discuss while being recorded. Suspicion and uneasiness may diminish as people gain trust in the field worker and his motives," (Alexiades, 1996). One decade later, it was stated by Rebekah J.M. Fuller that it still had not yet been common to see ethnobotanists examine potential of media to elicit new forms of knowledge. „Main benefit of using video is the ability to a record plant practice in its entirety. Another benefit of video as a documenting tool is the ability for the footage to be revisited at a later date allowing for further interpretation," (Fuller, 2007).

5.3. Ethical and Paradigmatic Reflection

Before we approach the results, it might be fruitful to reflect upon ethical and paradigmatic background of the methodology as it is nurtured from ethical presumptions, international context and, generally speaking, relationship between researcher and various stakeholders.

The Convention on Biological Diversity (CBD) was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit") (History of the Convention, 2001). The convention entered into force on 29 December 1993.

Article 8. (j) Each Contracting Party shall subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices (Convention on Biological Diversity, 1993).

It was a reaction on continuous prospecting of genetic resources by foreign ethnobotanists without any equitable sharing which has become later on labeled as biopiracy (Bussmann, 2006). I have no interest in bioprospecting, however as Alexiades warned the scientific community; it is not easy to separate oneself from certain influence, "Even purely academic research can not fully disassociate itself from commercial implications. For one thing, academic researchers have no control over the use and application of their published data," (Alexiades, 1996). The issue is connected with the question of formal or informal compensation; prior to or after the research, "As with other ethical issues, compensation has to be dealt with on a case-by-case basis. […] What is clear, however, is that:

1. compensation is necessary;
2. local expectations must be taken into account during formal and informal negotiations;
3. fieldworkers have the profesional responsibility to try to ensure that compensation is just and equitably distributed;
4. compensation is provided in a form that is truly beneficial," (Alexiades, 1996)

"In general anthropological community consents over the fact it is unethical not to inform host about your professional motivation. Examined people must possess the right to refuse when they do not want to become a subject of someone's observation," supported Thomas Hylland Eriksen (2008).

Recognizing that the issue has been discussed inside scientific community continuously and the results of the discussion might vary in future, I have done my best to design the research in compliance with currently valid ethical premises given mainly by Alexiades, Eriksen, Puri and Gamborg (Alexiades, 1996; Eriksen, 2008; Puri, 2010; Gamborg, 2011). Hence, formal permission was obtained from ORAU and FPIc directly from San Mateo Asheninka community. Prior to every shooting or photographing, restriction of attaining verbal accord was followed. Important gender issue was taken into consideration as well as higher vulnerability of indigenous peoples. From the anthropological view, I assumed methodological reflexivity, "emic" perspective and holistic position in context of micro scale interrelations among environment, resources and people (Ruby, 2010; Puri, 2010).

Along with assertion of Miguel Alexiades (1996), "[…] whenever possible, researcher should help students from host country acquire field experience and develop research skills," together with my colleague Helena Kotková, we accepted bachelor student of UNU, Mariela Reyes Raymundo, as a member of expedition. Unfortunately, she resigned before the departure due to accident in Pucallpa harbor.

Indigenous peoples living in remote regions are abandoned by dominant society only seemingly. They are too often forced to enforce international law in order to defend their inherent rights. It is essential for foreign research to comply with international conventions, treaties and resolutions with significant influence over people he or she is

about to work with. Reason is not only protectionist behavior, however, it puts project into context of potential future opportunities through benefit and results sharing. How receivers, indigenous community, NGOs or local government, of project results might value ones efforts and include them into their own policy making, it is question worth to answer. As discussed in chapter 3.3. Cultural Rights of Indigenous Peoples, I have been inspired mainly by Convention 169 Indigenous and Tribal Peoples Convention (Convention 169, 1989), Convention for the Safeguarding of the Intangible Cultural Heritage (Convention for the Safeguarding […], 2003) and United Nations Declaration on the Rights of Indigenous Peoples (UN Declaration […], 2007).

6. Results and Discussion

6.1. Historical Background of San Mateo Indigenous Community

As recounted by San Mateo elementary teacher Lopez Meza Leoneldo who honored oral legacy of old generation in this narrative, Asheninkas originally come from Sargento Lore village at Abujao river. This settlement located downstream the watercourse was wholly abandoned due to hostile activity of Maoist guerilla Sandero Luminoso in year 1986. Community marched in southern direction towards the border and settled down in primary rainforest belonging to Brazil. Here they encountered strict laws demanding permission for hunting and logging. I assume that it was the consequence of preparation procedures accompanying establishment of Serra do Divisor National Park and ensuing stricter preservation of biological diversity (Serra Do Divisor National Park, 2012). The park was subsequently opened in year 1989. Given that Ashéninkas had previously favoured hilly region by the source of Abujao river, they have decided to come back to Peru and set up their huts there. They have come under the leadership of one person, however, community agreed to vote for new leader every four years. By the time, the settlement was full of huts and all live in peace.

Along with Sandero Luminoso downfall and stabilization of domestic situation, the land comprising 22,270 ha was entitled to the community in year 1999 as it was later on discovered in CIFA documentation (Dirección Regional Agraria Región Ucayali, 1999). Disagreement over election of new chief had occured the same year. Part of community voted for Rafael „Rafiko“ Ruiz Fuks, yet some prefered candidate representing another agenda which led to desintegration of this fraction and departure from San Mateo. Explanation of the event was that the fraction had proposed exploitative projects over the community land which was not approved by majority. Mr. Lopez underlined the fact that this part did not settle down at one spot but rather dispersed. Nowadays, at San Mateo it has been living only Fuks extended family and their relatives.

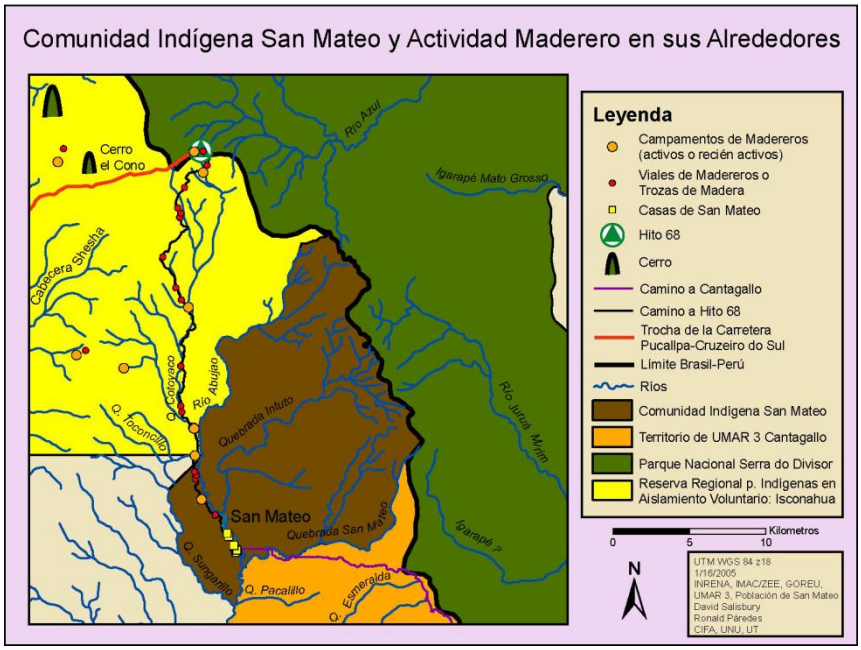
It is necessary to discuss this narrative with document The Peru-Brazil Central Border: Geographic Analysis and Conservation Opportunities (CIFA, 2005), CIFA report of Project Abujao (CIFA, 2007) and diploma thesis of Patricia Quintana (2008).

Map 2: CIFA - Abujao river and distribution of settlements

Asheninkas have not lived by Abujao river (Map 2) for centuries. Ethnic group came from the Yurúa river while hired by *seringueiro* (rubber taper) to work on *seringal* (rubber estate) and collect latex of *Hevea brasiliensis*. In late 19th century and first decades of the 20th century migration to this region was mainly economically motivated (CIFA, 2005; 2007; Quintana, 2008). Generally speaking, indigenous settlers often suffered from modern system of slavery and harsh working conditions which resulted in decimation of many communities. CIFA analysis stated workers were subsequently abandoned by their employers (CIFA, 2005), whereas San Mateo chief Rafiko refuted by saying that workers on their own were fleeing away from *seringueiros*. He noted as well that Abujao village, established at Abujao estuary to Tamaya Typishka and just 25 km from Ucayali river, was originally founded by his grandfather. It is a place of his birth and early childhood.

Another contradiction in perception of Abujao modern history was related to voluntary or forced migration of Asheninkas. The secondary documents mentioned neither activity of Sandero Luminoso in region, nor location or destiny of Sargento Lore village. As described in 2005 CIFA report, the reason for moving closer to Brazilian border was traditional hunting and fishing practice (CIFA, 2005). It might imply unsustainable exploitation of

natural resources in former area under pressure of growing migration from Pucallpa. Additionally, Asheninkas then allegedly spend almost four years working on another *seringal* in Brazil (CIFA, 2005). Because, it is not clear who provided researchers with the information, I can not undergo the source re-evaluation. All documents however agree over the date of settling at San Mateo location (Map 3) which realized in year 1991 (CIFA, 2005; 2007; Quintana, 2008). 2007 analysis adds that indigenous community comprised approximately 70 people and their leader was Jobita Ruiz Santana, matriach of the Fuks clan. Present chief is her son (CIFA 2007).



Map 3: CIFA (Salisbury) - San Mateo reservation and logging activity

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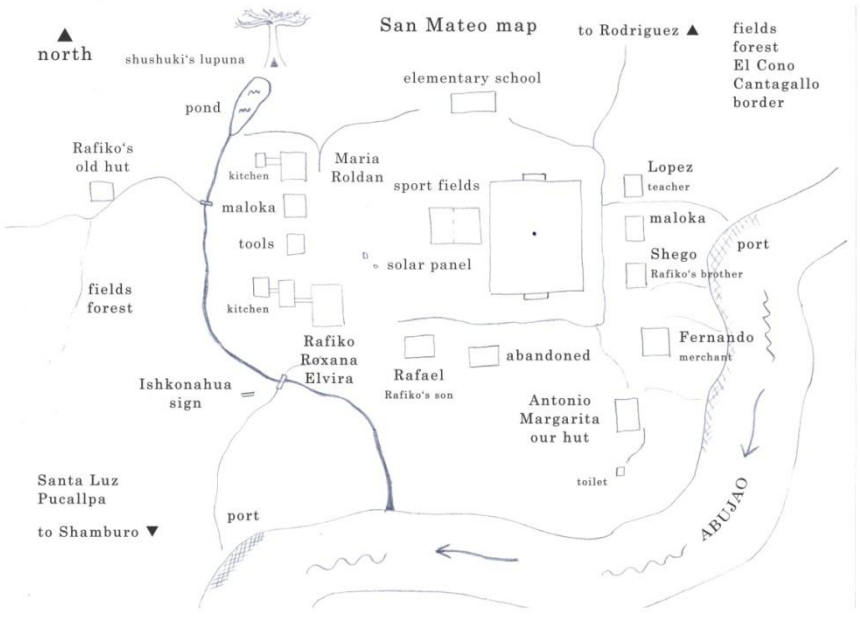
Voluntarily or not, Asheninka people living by Abujao river have been abandoning their territories. Even though reasons might differ, outcomes are clearer. In order to improve their living conditions, they have chosen to reach deeper into the Amazon Rainforest not closer to Pucallpa city.

6.2. Observation and Community Mapping

San Mateo in time of my arrival consisted of 15 thatched huts. Houses are made of fast growing hard wood tied together with liana *tamshi* (*Heteropsis spp.*), however prefabricated ropes and nails were observed as well. Hard resilient floor spans one meter above the surface as a protection for husbandry and against flooding. All huts are covered with palm leaves of *shapaja* (*Scheelea brachyclada*). Only chief's one had two floors. Two of them served as separated kitchen and two as warehouses. There was only one latrine because it is not common to build any toilet. Shelters are spread around open space of rectangle form which is used occasionally as football pitch as well as volleyball field. Northernmost building of the community is elementary schools sited atop the low hill. Teacher Lopez is present only during school year. His main hut is 30 minutes by boat downstream by Sungarillo tributary. Hamlet of Jeremias „Shamburo" Fuks is located 15 minuts in the same direction. Last house 20 minutes of walking northeast from the center of the community is one of Rene and Hugo Rodriguez Soria. Both brothers moved to San Mateo after marriage of Hugo and Anna Fuks, Rafiko's sister. Only permanent resident of San Mateo with non-Ashéninka origin and without relationship to anybody of Asheninka origin is Mr. Fernandez who, according to Roldan, as a trader of gasolin and alcohol has been misusing the isolation of the ethnic group. More in Map 4.



Map 4: San Mateo (Borecký) - map of community

According to teacher Lopez, Asheninkas were baptised as Christians. However, during my stay, I have not seen any religious gathering and there has not been church of any denomination what so ever. Three huts were deserted. Community is not connected to electricity and water supply grid, nonetheless Asheninkas were given 15 years ago solar panel for recharging simple radio broadcasting station.

6.3. Who Possess the Knowledge?

Question of guidance is crucial for any research limited in time. It was therefore fundamental to cooperate with reliable and knowledgeable members of community - research participants. During first focus group and presentation of the research goals including shared outcomes, I have emphasized the fact that possession of traditional knowledge in community might change in the course of time and by doing so we were trying to make Asheninka leaders contemplate whether it is true or not. Direct group answer „yes“ or „no“ would be single indicator of innerly shared feeling but daily life practice as manifestation of cultural features was more important than any proclamation. No direct answer was acquired, however.

At the first sight, observer might assume that desire to participate was only driven by economical profit without any interest in preservation of traditions, as repeatedly stated in chief’s interrogation. Reality was however more complex and we will examine it further.

Rafiko asserted, „Everyone possess the same amount of knowledge, therefore you can collaborate with anyone here.“ This quotation was later on corroborated with his opinion towards antecedent departure of *curandera* Alicia Mesa from Sungarillo, grandmother of teacher Lopez. „It did not frightened anybody because we all know our medicinal plants very well,“ said chieftain. I felt rather doubtful about this statement. All of the sudden, in two days cracks in demonstrated pride occurred. Rafiko’s son Raphael started to suffer from strong diarrhea with blood in his excrements and chief asked me to help him. This accident proved that foreigner is considered by the middle generation as bearer of superior remedy which is more effective than traditional methods of healing. The patient was given prefabricated antibiotics and got well in next two days. Nonetheless, the

Asheninka leader did not realize the consequences of the decision whether to cure his son traditionally or non-traditionally. How influential is the event on younger generation seeing stranger helping their own relative while there is rainforest full of remedies, as they are told by older generation?

Findings of Luziatelli (2010) and Lenaerts (2006b) has proved opposite than my impetuous presumption. “Medicinal plants knowledge was not restricted to the specialists, but included men, women and also children,” as it was proved to be in Luziatelli’s case study of close relatives Ashaninkas which was corroborated by analysis of Lenaerts, “Despite a frequent prejudice, knowing a large range of medicinal plants is not a shaman's particular skill. In some ethnic groups, such knowledge is rather equally shared by all men and women, as it is among the Asheninka or the Ka'apor. In others, like among the Yagua, the Warao and many Panoan groups (e.g. Shipibo-Conibo), it is a matter for specialists. […] These specialists are often distinguished by a specific term. […] The herbalists try to intervene first, and if they fail, ill people have to visit the shaman.”

Recommended guide and person possessing broader respect regarding healing plants, *curandera* or herbalist, Alicia Mesa, has moved to Pasco region. Although, reason why she has recently left the community remains unknown, Leonardo Lopez Davila, teacher Lopez’s grandfather, moaned profoundly, „Practically, I have become one of the last sentinels of all people and entire wisdom they used to have or keep preserving here at San Mateo. Decent gentlemen come to me and want me to prepare various treatments such as *chuchuhuasi* (recipe in Annexes). Throughout the time, I have prepared all I was able to make.“ The couple has certainly shared concrete recipes; however Mr. Davila has been suffering from osteoporosis being unable to take a bow and go hunting once more and hesitated to speak freely.

Most of the community agreed over the fact that relevant source is grand grandmother Maria - the oldest Asheninka. She presumably spent considerable part of her life at place described as “one month trek in the middle of mountains” where she had been weaving *kushmas*, traditional Asheninka dress, and headbands made of parrot feathers. It sounded to me as classical romantic vision which credibility was worth to discover. To gain trust of

older women appeared to be the hardest task since they appeared to be naturally suspicious to foreigners. This perception is historically as well as mythologically determined as commented by Brazilian anthropologist José Pimenta (2005).

Knowing that knowledge of plants is more equally spread, Asheninka middle generation still recognized role of traditional older knowledge holders which is supported by Luziatelli (2010), "There was a significant correlation between age of informants and knowledge of medicinal plants." Next, in comparative study of Marc Lenaerts (2006a), it appeared, "[…] very soon that each indigenous group had its own distinctive knowledge. The favorite medicinal plants are quite different. The specific uses, and the forms of use, are not the same. […] Variations and changes appear everywhere, within each ethnic group as well as in interethnic relationships." It will be discussed further what might be the role of audiovisual documentation in this difficult ethnobotanical task.

Trust in not one-way road; it must be mutual. For Maria, it was uneasy to accept newcomer. On the contrary, it was problematical for us to accept services of Segundo „Shego" Fuks, brother of Rafiko. He claimed to be the most knowledgeable guide at San Mateo and asked for 40 soles per day (1 sol equals 7 CZK). Obtrusive Shego exhibited in front of our hut every morning before he withdrew and I could finally hire Roldan Vasquez Rios. Protecting knowledge of indigenous people shared by the man, who is not, in anthropological sense, originally indigenous, is paradoxical situation. Travelling through the region, Roldan married Rafiko's sister Karina and settled down at San Mateo. In last decade, he discovered much of knowledge by accompanying Asheninkas into the rainforest. This is not exception, more Asheninka women in past married mestizos what has brought different customs into communities. Unusual is that Roldan is a pure evidence of mestizo honoring legacy of past reinforced by willingness to acquire technological riches of modernity. He deciphered for the camera accumulated desire for ecological and cultural preservation which is not fully comprehended by all members of community. This ambivalence of cultural dimension and role of traditional knowledge will be examined right after ethnobotanical section of the research.

First objective of the research was the audiovisual documentation of collecting, processing and use of selected NTFPs derived from the Amazon Rainforest and used by Asheninka indigenous people.

6.4. Ethnobotanical Knowledge of Asheninkas

First vernacular name is common in Peru and has Spanish origin, second one is originally Asheninka. Pronunciation and transcription are described in Annexes. Following information was provided solely by San Mateo indigenous community. Discussion is incorporated right after the results in separated paragraph.

Six out of fourteen items are accompanied by visual ethnobotany films. These short films can be found at enclosed DVD describing traditional collecting, processing and use of chosen species. DVD includes section with ethnobotanical photographs.

It does not necessary mean that knowledge related to selected species is shared by whole culture equally. There are spatial, social and historical differences in knowledge possession (e.g. Hays, 1974; Pelto and Pelto, 1975; Lenaerts, 2006a). Even though, outcomes might be evaluated as representation of one relatively isolated community, following implications have from the point of view of qualitative approach general validity.

6.4.1. Aphandra natalia

vernacular name: piassaba, kasankariki

family: Arecaceae

video: yes **photo:** 4

use: fiber (craft), fruit is edible

Picture 1: Aphandra natalia - piassaba

Economical importance of this plant is high because of extraordinary quality of petiole fibers. Mr. Fernandez was about to sell 45 kg of fiber for 200 soles in Pucallpa (one mature individual can provide 12 - 15 kg). Problem is unsustainable harvesting in Peru. Moreover, natural resource must deal with market competition and onset of plastics. Fruit is edible but small.

"Aphandra natalia is single-stemmed sub-canopy palm with a trunk up to 11 m tall and it has up to 24 leaves that may reach 12.5 m in length. […] Apart from producing fibers, *Aphandra* is used for a multitude other purposes, including its edible fruits, its inflorescence for cattle fodder, its leaves for thatch, waving, blowgun darts, stuffing in dart canister, and much more," (Boll et al., 2005).

"Fiber production increases with increasing exposure to light. The obvious implication for management is to provide as much light as possible. […] The fibers originate from the leaf sheath and petiole, and in order to harvest them, leaves must be cut. On the average the leaves of each individual is harvested once every 1.55 years. […] On average 8.5 leaves are cut from each palm during harvest, while 6.9 are left intact to secure continued growth and production. […] From each palm an average of 3.4 kg of fibers are harvested […] Extraction of fibers from *Aphandra natalia* is very profitable for those who have access to high-density stands near roads or rivers, since a minimum salary may be secured with only 29 days work per year (Ecuador in 1995). […] The practice on the property of A. Carreño appears sustainable in the sense that he continues to harvest fibers year after year from the same individuals, and has done so for almost 20 years," (Pedersen, 1996).

6.4.2. Attalea phalerata

vernacular name: shapaja, psiao

family: Arecaceae

video: no **photo:** 4

use: leaves for roofing

Picture 2: Attalea phalerata - shapaja

Shapaja is very common in region with leaves widely used for roofing. On the contrary, in Pucallpa *irapay* (*Lepidocaryum tessmanii*) is more widespread. In the city one can buy 600 leaves for 1,400 soles. Fruit is small and bitter but edible.

"The *motacú* palm (*Attalea phalerata*) is widespread in Bolivia and is an economically valuable species as a source of vegetable oil. In Bolivia it is utilized as construction material, food, medicine, cosmetic, and edible oil. Oil extracted from the kernel (60 - 70 % of dry weight) is high in lauric and myristic oils and compares favorably with other tropical oil crops. The palms reach reproductive maturity in 7 - 10 years and potential oil production from cultivated stands is 1.1 - 2.4 tons/ha/yr," (Moraes et al., 1996).

„Convention 169 and the UN Declaration provide a framework for policies regarding natural resource use by indigenous communities, and also outsiders' use of resources in indigenous peoples' territories and traditional knowledge in the study countries. … The situation of the NTFP-use by indigenous communities is also legally contentious, especially in cases where the raw materials enter the market rather than being used immediately for subsistence. On the one hand, indigenous peoples have full autonomy to manage their resources within their territories, while on the other hand, they are also obliged to follow the national legislation, " (De la Torre et al., 2011).

6.4.3. Cedrela odorata

vernacular name: cedro, santari

family: Meliaceae

video: no **photo:** 6

use: carpentry (boats, flooring), bark curative potential, protected

Picture 3: Cedrela odorata - cedro

Cedro is relatively scarce at San Mateo. Many individuals were removed prior to establishment of the community in year 1991. Decoction of bark has curative potential. However, specific use was not indicated. Timber is very popular building and construction material. Due to its scarcity and endangerment, Asheninkas prohibited any logging of *cedro* at San Mateo. Even today, loggers bringing particular permissions have been trying to extract it as in case of family which simply intruded into the community and started exploitation. Asheninkas had to sue them at the court.

„Deforestation means that our offspring will not have a chance to know this tree. They will only appreciate its robust and beautiful timber. Once, it was so valuable that *madereros* carried out raids against us and lied to us about real cost. We used to make deals of three or five trees. Since then, we have learned about importance of ecological diversity and how to propagate and distribute this tree. Now and then, loggers keep imposing this ruthless idea over and over again," complained Roldan.

"Many smallholder farmers and family-run sawmills in the Amazon estuary are enjoying economic success today because they have formed a new "hybrid" forest product industry. […] They used their existing knowledge of ecological processes and silvicultural activities, they salvaged equipment from the abandoned mills, and they incorporated industrial standards into their production. […] The integration of local ecological knowledge and their expertise in management with information and technology gained during temporary employment with large-scale timber firms has enabled them to do this," summarized Robin R. Sears the findings in Eastern Brazil (Sears et al., 2007).

6.4.4. Ceiba pentandra

vernacular name: lupuna, shina

family: Malvaceae

video: no **photo**: 12

use: timber, protected

Picture 4: Ceiba pentandra - lupuna

Mighty straight trunk of *lupuna* has tree distinctive colors. Thus, Asheninkas distinguish three different types of this tree. *Lupuna colorada* (probably *Cavanillesia hylogeiton* - same *Bombacaceae* family) has red peeling bark and barrel-like trunk base and *lupuna negra* (unidentified) with darker coloring. *Lupuna blanca* (Picture 4) is not only treasured for its high quality timber but it is considered sacred tree. Overlooking the community, the tree is said to be home of *shushuki* - trickster spirit of the rainforest. Brother of chief, Shego, once cut into *lupuna's* trunk, sudden scream resonated from within the tree and drops of blood occurred on the bark. Therefore, it is protected against any invasion. Across the Peru, this species is favorite target of loggers.

„Despite the seemingly comprehensive nature of Peru's forest legislation, and the volumes of ever-evolving associated regulations, illegal or unsustainable logging practices are still widespread in the country. It is estimated that up to 90 % of timber originating in the Peruvian Amazon is illegally extracted or traded. […] Reasons cited for the failure of forest reform in tropical countries include weak governance, corruption, and lack of monitoring and enforcement, among others. […] As things stand today in the Peruvian Amazon, the practicality of the current legal framework is questionable, and the sustainability - ecological, economic and social - of forestry practices seems untenable. […] Reform of the sector will only work when regulation honestly takes into account local social, political and environmental realities in the Peruvian Amazon, and when legislators turn their attention to equitable financing in the forest sector," (Sears and Pinedo-Vasquez, 2011).

6.4.5. Croton lechleri

vernacular name: sangre de grado, irarito

family: Euphorbiaceae

video: no **photo:** 6

use: resin (teeth, inflammation, digestive track, gastric ulcers, hemorrhoids, cancer)

Picture 5: Croton lechleri - sangre de grado

Healing characteristic of *sangre de grado* was discovered throughout the Amazon. Hideous story goes around about the man who made a plantation of *sangre de grado* by river Shesha, tributary of Abujao, and all of the sudden disappeared. In any case, because of rare occurrence at San Mateo, Asheninkas have recently brought seeds and started small-scale propagation project. Blood-like resin of this tree is of the highest importance. Collection must be undertaken early in the morning by cutting into the bark. Flowing resin is subsequently gathered in attached can. It may be consumed directly or, for conservation purposes, mixed with few drops of alcohol. Recommended dosage for serious illness is six drops dissolved in clear water. Patient drinks mixture during 14 days. Occasionally, anybody can drink *sangre de grado* as prevention. Symptoms treated are pain in teeth, internal inflammation of digestive track, gastric ulcers, hemorrhoids or cancerous proliferation. Externally, with its inflammatory quality anyone can treat burns or cuts. Any other use was not indicated.

Roldan exclaimed, “This resin proved many times to be appropriate treatment against broad range of illnesses. Besides *sangre de grado*, small medicinal plants must be individually protected because it is not a matter of size but usefulness. Preservation of our rainforest must be based upon deliberate decision. Serious concern regarding these plants is basis for our sustainable future.”

6.4.6. Copaifera paupera

vernacular name: copaiba, poiniroki

family: Fabaceae

video: no **photo:** 2

use: oleoresin (cancer, internal and external inflammation, kidneys ad digestive track), protected

Picture 6: Copaifera paupera - copaiba

Copaiba is another tree generally well-known for its medicinal effects. This tall and noble plant is not plentifully distributed at San Mateo. As in case of *cedro*, timber loggers have already transported many of them before arrival of Asheninkas, yet not because of low quality timber but because of its oleoresin. Extractor ought to drill deep into the trunk which is detrimental for the individual. Furthermore, for economical reasons whole tree is usually cut down and all its oleoresin is removed. Asheninkas have never done so but they are convinced that drilling only one hole suppose to be sustainable.

„Cutting this tree down and killing it, it is like killing thousands of potential human lifes. We acquire healing potion but at the same time we get closer to its extinction. We must find the way how to draw *copaiba*'s blood as during blood donation," asserted the guide.

Sap is active against variety of ailments or disorders. It cures various types of cancer such as uterine cancer or cancer of stomach, inflammation of urinary tract, kidneys and digestive track in general. External inflammation can be treated as well by few drops.

Medeiros and Vieira (2008) evaluate, „[…] the ecological sustainability of extracting the oleoresin of *Copaifera multijuga* (Hayne) and some factors influential in its production. […] 57 % of productive trees had Diameter Breast Height (DBH) >= 41 cm and were responsible for 95 % of total production. Although these trees had the highest initial production, after one year only 28 % of initial oleoresin production was recuperated, much slower than in trees with DBH < 41 cm. Production was positively correlated with DBH and dominance within mother tree."

6.4.7. Euterpe precatoria

vernacular name: huasai, tsirintsi

family: Arecaceae

video: yes **photo**: 10

use: roots (kidneys, lungs, anemia, fertility, diarrhea), fruit (beverages), timber (fencing), palm heart is edible

Picture 7: Euterpe precatoria - huasai

Huasai palm is relatively abundant at San Mateo and its proximity. It is mainly used for healing purposes. 1 kg of young reddish roots is collected, washed, crushed into pieces, and boiled to blood color. 1 kg of sugar and red-hot steel is finally added into mixture. In the end, steel is removed and concoction is let to cool down. Next day it is ready for consumption (dosage - shot per day) but process of maceration can be undertaken as well at this stage. This remedy is traditionally used for healing of kidneys, lungs, anemia, fertility or diarrhea.

The palm is multipurpose plant useful for constructions, as source of daily diet (fruit, palm heart) and even seeds are smashed into cocktails in Brazil. In order to obtain all mentioned source, *huasai* must be cut down.

Marc Lenaerts (2006b) described the traditional steam baths of Asheninkas, "Another form of everyday healing is steam bathing. In the Ucayali region, it is a specific Asheninka technique. […] The patient is placed over a big cooking pot and covered with a large cloth. The pot contains water, leaves of *parihuana* (*Clarisia biflora*) and sometimes of other plant species, depending on the illness to be healed. Several red-hot axe heads (or stones, in a more traditional version) are progressively put in the water, to produce billows of steam shrouding the patient. After this first step, which lasts about 15 or 20 minutes, the water is thrown away and the leaves are carefully inspected, in order to discover some thorn or piece of bone or charcoal. […] presented as the cause of illness."

6.4.8. Heteropsis spp.

vernacular name: tamshi, tsrompita

family: Araceae

video: yes **photo:** 10

use: aerial roots (craft - brooms, baskets, carrier, weaving, house construction)

Picture 8: Heteropsis spp. - tamshi

This plant is very well known in Amazon due to its broad utilization in craft manufacture (Picture 8). Two other subtypes of the *tamshi* are distinguished by Asheninkas. *Huambe* (not identified), thicker diameter and rougher bark, is used less than original *tamshi,* because processing is said to be more complicated and time-consuming. Outside bark is durable and stiff. It type is not favored due to its allergens in tissue. Second type is called *itininga* (probably *Philodendron spp*.). Roots of this form are too soft and therefore unsuitable for traditional craft. *Itininga* grows in dense and interwined strips expanding around its host trunk. Liana descents from tree canopy to ground, not vice-versa. While reaching the ground, it roots and interrupts its parasitic behavior with the tree.

"The species of the genus *Heteropsis*, known throughout Brazilian Amazonia as *cipó-titica*, have long been the target of intensive commercial collection because of the valuable fiber which is made from their aerial roots. The fiber is widely used in regional craft manufacture and forms part of the extractive industry of the region, based on forest products. […] This species occurs over a wide area of lowland western Amazonian Brazil and Peru, and is probably not at immediate risk from habitat loss. However, as all species of *Heteropsis* are targeted as a non-timber forest product for their root fibers, there is a degree of threat," (Soares et al., 2009).

6.4.9. Minquartia guianensis

vernacular name: huacapú, charintchari

family: Olacaceae

video: no **photo:** 2

use: house construction

Picture 9: Minquartia guianensis - huacapú

Huacapú is considered abundant at San Mateo. Asheninkas recognize two types according to color of fruit which is either yellow or black. „Black“ variety is more common. This tree is used solely for construction of houses because of its solid and durable wood. It can withstand from 30 to 35 years even entrenched under the ground. Fruit is not edible. Further utilization is unknown to Asheninkas.

Roldan’s remark towards the use of rainforest timber products, „Life here is challenging. At San Mateo we lack economical system. Thus, having no other option we must exploit local natural resources in order to survive. We are forced to destroy these sources to sustain our livelihood.”

“The intense extraction of the durable wood of *Minquartia guianensis* for subsistence and commerce, especially for posts in house construction, has resulted in a widespread depletion of its natural populations. In areas where the species is still available in natural populations, it provided more than 80 % of the posts used and extracted. […] Over-sizing of wood is often observed, and in some cases alternative wood species with lower resistance than *Minquartia guianensis* could probably be applied, e.g. in the parts of posts not in contact with the soil, and in all elements not exposed to decay by wood-destroying organisms and attacks by termites,“ (Nebel, 2001).

6.4.10. Perebea humilis

vernacular name: chimigua, pamaki

family: Moraceae

video: no **photo:** 6

use: resin treating cuts, muscle problems, fruits is edible (refreshment), protected

Picture 10: Perebea humilis - chimigua

The tree is well spread in proximity of the village. Timber is not valuable. Its resin can be used as a treatment for outside injuries. Asheninkas collect fruit out of this average tall tree in August. In the past, they did so by cutting the whole tree down. This practice was abandoned nowadays. Fruit is too small to be collected from the ground under the tree, therefore it is not usually part of their diet. Ripe fruit has red blood-like color which can be processed into refreshing beverages.

„Only thing we want is to stop cutting this tree down, stop killing the tree. Behold, it is so helpful for animals such as birds. They can nest among twigs and feed upon red fruits. It is better to protect our nature. We do not want to keep logging until the total annihilation of all plants. Rainforest is big enough to be conserved and used sustainably at the same time," explained Roldan.

No relevant scientific articles obtained.

6.4.11. Spondias mombin

Picture 11: Spondias mombin - ubos

vernacular name: ubos, methoiki

family: Anacardiaceae

video: no **photo:** 2

use: resin (cuts, infections), bark decoction (kidneys, diarrhea, digestion, vaginal infection), fruit (beverages), protected

This tree is moderately common at San Mateo. Resin might be used as remedy for external cuts and infections. Bark decoction is consumed internally for healing of kidneys, diarrhea or digestive problems. In form of lavage it can treat vaginal infections. Timber of ubos is not recognized as useful, however fruit has unique flavour in beverages and juices. Within indigenous reservation Asheninkas it is under full protection.

„It is forbidden to cut *ubos* in Brazil. In Peru it is not uncommon to see fall this giant down only because of fruit collection. I think it is not only question of external support but our own exploitative customs," explained Roldan.

"We conclude that the pulp of yellow *Spondias mombin* has high levels of potassium, magnesium, phosphorus and copper when compared to other fruits. […] Briefly, it has a composition that confers high nutritional and functional value, which can be associated with the prevention of various diseases. One can say that it may have a promising place in the market and further studies focusing on sensory properties and consumer acceptance of yellow *Spondias mombin* based products are recommended," (Tiburski et al., 2011).

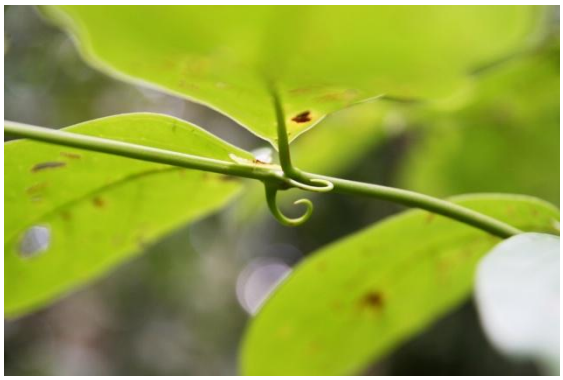
6.4.12. Uncaria tomentosa

vernacular name: uña de gato, tskontotshe

family: Rubiaceae

video: yes **photo:** 6

use: bark (digestive track, intestines, kidneys, venereal disease), water drinkable



Picture 12: Uncaria tomentosa - uña de gato

Uña de gato (*cat's claw*) is rich in the region. This so-called „water liana" contains drinkable and very tasty water. Indigenous peoples in Amazon drink it while travelling long distances. Decoction of bark is used for cleaning of digestive track and intestines, problems with kidneys or venereal diseases such as gonorrhea or syphilis.

The plant is constantly exploited at Abujao river by harvesters from Pucallpa who do not respect property rights or season for natural dispersion.

„Most dietary supplements used by cancer patients are derived from native plants and foods from around the world. The most frequently used botanical supplements include *astralagus*, *huangqi* (*Astralagus membranaceus*), *cat's claw* (*Uncaria tomentosa*), *mistletoe* (*Viscum album*), *saw palmetto* (*Serenoa repens*), *milk thistle* (*Silybum marianum*) and *shitake* mushrooms," (Go et al., 2001).

"Ex vivo activity of three products of alternative therapy against leukemic and normal cells was analyzed. … Extracts of *Viscum album*, *Uncaria tomentosa*, and *Croton lechleri* were used for the study. Leukemic cells of 53 children with acute leukemia and four cell lines. […] Leukemic cells showed high resistance to tested three compounds of alternative medicine in all performed assays. Additionally, tested remedies stimulated survival of leukemic cells in 45 %, 96 %, and 83 % cases, respectively; while no effect was observed in normal lymphocytes," (Styczynski and Wysocki, 2006).

6.4.13. Extra: Guazuma crinita

vernacular name: bolaina

family: Malvaceae

video: yes **photo:** 10

use: construction material, firewood

Picture 13: Guazuma crinita - bolaina

Although *bolaina* is not example of NTFP, I have decided to include it as a product of rising economical importance for Asheninkas. Principal reason is contemporary cultivation project at San Mateo. Due to its fast-growing, strong but flexible wood, timber of *bolaina* has been undergoing steady price growth at market in Pucallpa. Marketing potential was recognized by Asheninkas four years ago and, under the guidance of Jeremias „Shamburo“ Fuks, they have established *bolaina* plantation 5 minutes by boat upstream the Abujao river. Former agricultural plots with nutrient-depleted soil were reforested and tree-length logging method followed with new reforestation will be employed after some six years of growth.

Short income assessment proved that average gross income coming from 50 fallen trees reaches 3,500 soles (one 20 meters tall tree equals 35 - 45 planks, price for one plank ranges from two to three soles). This amount is divided among six workers i.e.: some 580 soles per person. Expenses were not calculated, however, according to Roldan this irregular income is solely for sustenance purposes. Idea of community budget was not discussed so far.

“*Bolaina blanca* (*Guazuma crinita*) is a medium-sized tree native to South America in the Amazon forest region. This species has a soft-light wood with good properties for uses including light construction, moldings, matches and boxes. […] *Guazuma crinita* has a fast initial growth rate of up to 3 m in height per year and shows excellent adaptability to a wide range of soil types,” (Maruyama, 1997).

6.4.14. Extra: Venison skinning

video: yes **photo:** 4

Picture 14: Venison skinning

Both flora and fauna are Non-timber forest products. This is example of hunting practice.

Approximately three kilometers northwest, 15 kilograms weighing deer was tracked and killed by shotgun. The body must be skinned immediately at the spot where it was hunted. Firstly, urine must not to enter the body; secondly, insects must not to be attracted into the village though. Skinning is done in 20 minutes on leaf of nearest palm. Skin itself has low market value in the region. All viscera are removed at the spot and forsaken for good mood of tiger - the most fearful animal of the rainforest.

“I have raised my family with bow and arrow but if I have shells, I prefer to go hunting with shotgun,” said chief of Asheninkas. I did not see children playing with harmless bows and arrows acquiring basic skills for hunting. This approach hinders transfer of traditional technology of hunting and increases dependency on shells. However, children learn about the rainforest by accompanying parents while hunting.

6.5. Deterioration of Cultural Traditions

During last ten years, number of San Mateo inhabitants has been steadily declining to recent total of 18 adults and 26 children. As we already know, the crucial discrepancy occurred in 1999 when diverse opinions over new chief led to exodus of disappointed minority. This minority voted for establishment of logging camps. In spite of the fact that this socially excluded part of community has remained outside the research scope, the opposing reaction of majority might serve as vehiculum for strengthening ecological and cultural bounds to local environment; however, it did not materialize.

In this chapter I would like to present additional observable phenomena leading not solely to individual resettlements but more generally to cultural deterioration of whole indigenous community.

Social cohesion of nation or ethnic group is maintained through political organization, shared environment, spoken language, belief system and practiced customs (Eriksen, 2008). These factors mainly "push" people inside the imagined community. "Pull" forces acts in opposite way. It is helpful to examine "push" factors separately and later on indicate corresponding "pull" forces.

6.5.1. Language

Participants valued the most their language. The youngest generation is able to learn grammar and vocabulary in local elementary school which has bilingual teacher. Main working language is however Spanish. When children leave the school, they spontaneously switch into Spanish because their parents do not use Asheninka in every day communication; only while talking to their own parents. Generation comparison showed that the oldest generation understands Spanish but refuses to speak in it. The youngest ones understand Asheninka but hesitate to use it, on contrary. For instance, Roxana Fuks presented me all plants only under Spanish names not being sure about Asheninka ones. Luziatelli in her Ashaninka ethnobotanical research mentioned, „[…] some of them (children) were more active in giving names of medicinal plants while some others only confirmed what others had just said. This could be also influenced by shyness," (Luziatelli et at., 2010).

People feel grammatical unconfidence and lack of language practicing. Elderly people acquired current *lingua franca* too late and youngsters follow their parents‘ example seeing them using mainly Spanish. This general simplification might be augmented by different gender roles and degree of intercultural contact. Analogous relations were witnessed during my bachelor field research in Czech minority living in Serbia (Borecký, 2009). Cause of this language turn is that middle generation started to orient outside the community more than inside. Gap between modernity and tradition opened up. If trend continues, importance of Asheninka language at San Mateo will decline with demise of the oldest generation.

6.5.2. Belief system

Making any deeper proclamations about religious system would not be responsible act. One month field research is not long enough to understand uneasy observable meanings. I am going to communicate here only concrete facts without any explanations.

Since believes of indigenous peoples untouched by Christian missionaries are strongly tight to their environment (e.g. Pimenta, 2005), we must consider this relationship in San Mateo “emic equation” which was already influenced by Christianity to certain extent. As it was stated, there is no conventional church or place of worship. The community has no formal spiritual leader as far as I know. Asheninkas does not hold any special feasts excluding birthdays. I did not witness any form of rite when people publicly manifest their believes. Roldan knows the recipe for Asheninka traditional *kamarampi* conconction (*ayahuasca*, *Banisteriopsis caapi*) which provides connection with spiritual world but they do not practice it anymore. Even though, no religious authority as shaman is present at San Mateo, my guide warned me that there is latent shamanism in the community not specifying what it means. To warnings or institution of taboo was related tale about *lupuna* and rainforest malevolent spirit *shushuki* narrated by Shego.

Although elderly female generation found difficult to build rapport with me, they warned me before *shapingo*, *nantatsiri* and *piali.* These are devils of the rainforest and meeting them, it means sudden death.

One interpretation is given by Lenaerts in his article Substances, Relationships and the Omnipresence of the Body from an Asheninka Point of View (2006b), "[…] what happens is not exactly a struggle for life between species and/or individuals, understood as separated entities. Once again, everything remains grounded in relationships. Actually, the other side of predation is often seduction, which can induce a consenting bodily metamorphosis and assimilation to the other. […] Human health, hunting, agriculture and general wellbeing largely depend on this complex network of intertwined wills."

Teacher Lopez in this sense underlined that grand grandmother Maria worships sun and moon. It is traditional cosmological vision of entity called *pawa* shared by both Ashaninka and Asheninka people (Pimenta, 2005). At the verge of custom and religion, there is smoking of *mapacho*, pure tobacco *Nicotiana rustica*, for purposes such as healing, weather control, repelling mosquitoes and protection against bad spirits. All these effects can be elicited only by blowing smoke on given person.

In the long-term study of Lenaerts (2006b), he continues his foregoing interpretation as, "The most common healing practice is widespread in the whole Amazonian region or even Amerindian world. The shaman just blows some tobacco smoke. […] A specific chant might accompany the tobacco blowing or spitting; a thorn or a little piece of charcoal might be sucked out from the patient's body, and presented as the cause of illness. […] Health is not an individual, strictly physical and biomedical issue, but also a social, relational one."

I do not want to make any strict statements about belief system of Asheninkas at San Mateo. Generally, we can say that orally transmitted stories and sacred places are not boundless. Especially, indigenous peoples have historical and spatial connection with their environment. Land is not something that can be bought and sold or exchanged for land elsewhere, but is integral to the identity of the people who live on it. spiritual a cultural," (Shinai, 2004).

Could Asheninkas of San Mateo create this connection in 20 years?

6.5.3. Customs and Economics

Picture 15: traditional kushma - family Rios - Santa Ana - Yuruá river

Picture 15 was taken with permission of chieftain Alfredo Gonzales Rios and his wife Viviana at river Yuruá in Ashaninka village Santa Ana. It depicts male and female style of handmade garment *kushma* made of natural cotton. According to teacher Lopez, wearing traditional clothes started disappearing at the turn of 20th century with increasing contact caused by rubber extraction. River Yuruá discharging to Brazil has been exception due to its remote location.

At San Mateo, grand grandmother Maria is the last person possessing knowledge of how to weave this traditional cloth. Feeling sore as time goes by, she offered her knowledge to the other women living at San Mateo but they refused to learn it because they did not find this skill valuable. Seeing that nobody wears *kushmas* anymore, she bestowed the last one to Lopez.

Contradictory appeal was observed by Luziatelli (2010) in Ashaninka community, “Some informants in their thirties lamented the fact that their parents did not want to teach them what they knew on medicinal plants.” However, reason for this refusal was not indicated.

Additionally, more and more plastics can be found around thatched huts as people getting accustomed to new material preferred to natural resources as *tamshi* or *piassaba.*

Subsistence agriculture is based on “slash-and-burn” technique with *yuca* (*Manihot esculenta*), bananas (various species of genus *Musa*) and maize (*Zea mays)* as main staple crops. Complementary activity is fishing in Abujao river which can be done either from a boat during rainy season or directly in the river in dry season.

One can clearly observe growing interest in drinking fermented beer *masato* which is made of *yuca*. Both Asheninka and Ashaninka used to call this special feast of *masato*

drinking *piyarentsi* (Pimenta, 2005). Occasionally, chief invited neighboring communities and by doing so fortified mutual relationships. Nowadays, *masato* is consumed every day even with non-indigenous settlers. Roldan commented it as consequence of unstable values.

Lenaerts (2006a) in his extraodrinary study found correlation between drinking of *ayahuasca* and *masato*. Narrative comes from Yuruá basin. „On the river Mapuya, the Yaminahua from Raya recall that when they accepted foreign contact and sedentary life, they learned the fabrication of *yuca* beer from the Asheninka. […] The new *yuca* beer had a great impact on ayahuasca consumption, according to the Yaminahua themselves. […] Currently, the psychoactive brew is partially given up, which is explained by the quantities of *yuca* beer they have learned to drink," (Lenaerts, 2006a).

Moreover, I did not witness any artistic performance such as singing or playing at any instrument. Main source of amusement for men is regular Sunday football match; women rather talking to each other. Men acquired this interest in football from mestizos living lower at Abujao river.

Departure from handmade products and oblivion of technology contributes to material dependence on resources which are beyond the control of indigenous peoples.

At this point, it is important to understand the policy of formal and informal leaders how they plan to cover changing list of needs. It will bring us closer to recognition of rainforest importance and value of traditional knowledge.

6.6. Vision of the Future - Here or There?

Moving farther from the city and its detrimental influence used to be appreciated decision. Times have changed. During my research, the community members were constantly expressing their concern about the distance from regional center Pucallpa and other villages at Abujao river. Inability to travel there and back due to seasonal changes and price of fuel is now considered as a problem. We must ask why do Asheninkas feel so passionate about travelling?

Middle generation have rejected or simply have forgotten technologies of their ancestors which helped them to be self-sustainable. Nowadays, besides being skillful farmers and occasional gatherers of non-timber forest products, they maintain friendly relationships with other settlers at the river and usually trade with them. This connection causes that Asheninka people compare themselves with the others. It makes them deprived because they see products of modernity so close to them but still far. There is not passion about travelling itself but about improvement of living conditions throughout acquisition of products formerly unknown. There are only two ways how to arrange it - leave for good and find it elsewhere or bring it closer to San Mateo.

6.6.1. What is Perceived as a Problem?

Roldan and Lopez represent those who want to bring modernity at San Mateo and preserve the tradition as well. They wish for installation of water tank and building water supply along with local electrical grid. At the same time, they both perceive cultural deterioration which is seen as direct reason of disintegration of whole San Mateo indigenous community. According to their testimony, they have faced with their proposals some kind of "dissatisfied satisfaction" of Asheninkas. Majority of community do not plan for farther future. Even though, there is a time for planning, their current needs are preferably fulfilled.

Relevant planning can be done only with relevant information. One might assume that remote village lacks information. Knowing that the community has established *bolaina* plantation as Asheninkas learned about the increasing price, it means they do not lack information, or at least, to certain extent. Even my translator and I were considered as valuable source of information about "outer" world e.g.: how is evaluated eligibility of applicants for visa to the United States? In this context, it is interesting to mention another observation. Mestizo Mr. Fernandez serving as trader owns TV set fueled by engine-generator. During time of my presence at San Mateo, Asheninkas did not show any particular interest in watching TV channels.

Being surprisingly honest to me, Roldan and Lopez appeared to be very doubtful about legitimacy of Rafiko as a leader of the community. According to them, he serves as

traditional authority in shrinking domain but, being illiterate, he can not properly represent interests of the San Mateo. This important issue was not investigated further due to its sensitiveness. I will interpret the statement as follows. Both men with non-Asheninka origin perceive that in order to defend indigenous community in modern world, it is crucial to acquire some features of modernity such as formal education. This notion was supported by Eriksen (2008). Moreover, since doubts about political credibility exist, it supports the notion of pull force outside the community rather than push one.

For teacher Lopez, situation of San Mateo might improve if Rafiko accepts knowledgeable counselors with passion for the community life i.e.: Roldan and him. Next, they are able to find a support of governor seated in Pucallpa city and, last but not least, successfully negotiate for establishment of high school at San Mateo; new teacher for teenagers respectively. According to him, younger generation will not stay at San Mateo without these improvements and dying out will continue.

As it is in nature of teachers to take care about youth, it is in nature of guides to take care about environment. While it is obvious from many foregoing statements, Roldan prefers to use the most valuable asset of Asheninkas - 22,270 ha of primary rainforest - in sustainable and ecological way. He wishes to reconstruct one hut into guest house and provide necessary services (transport, cooking and guidance) for students, researchers or tourists coming to San Mateo. Additional plan is to establish local store with wider range of products and without exploitative prices.

These plans for future improvement within borders of San Mateo are derived from modernization needs going hand in hand with preservation and reintroduction of vanishing traditions.

6.6.2. Can we Impose Culture upon the People?

We already know that value of traditional knowledge was questioned. Women, recently typical craft makers in Asheninka community, have been transforming from producers into consumers.

By refusing self-sustainability and shifting towards market oriented customers, they have started to quantify everything in monetary terms. However, consumer without money is deprived consumer. Peralta and Kainer interpreted exactly the same motivation in their Ashaninka case study, „[…] individuals tended to acquire new desires that only could be met by purchasing goods and services not available locally. They were thus motivated to develop commercial activities to obtain the required money to meet these new felt needs," (Peralta and Kainer, 2008).

Godoy (2001), in this sense, articulated two main trends in market integration for forest dependent indigenous economies, „(a) autarky or traditional households that produced most of what they consume, and relied on hunting, horticulture, and reciprocity relations; and (b) market oriented or non-traditional households that produce little of what they consumed, and relied on well-functioning markets and local development of specialized production."

Godoy's distinction is strict but valuable. First of all, Asheninkas have not established connection with well-functioning market due to distance. When we understand that the community is self-subsistent in terms of crop production (*yuca*, bananas, maize) and occasional collection of NTFPs mainly for improvement of daily diet but market dependent in terms of provision household wealth, we recognize a shift in values. Basket made of *tamshi* or bow made of *pijuayo* (*Bactris gasipaes*) is no longer considered as wealth since it has no market value. Collection of these NTFPs is therefore decreasing. Wealth is nowadays represented by fishing and extracting capital or durable consumer goods mainly of foreign origin. Godoy (2001) summarizes, „Luxuries become necessities and the influence of trading relationships disrupts native social organization."

Understanding how wealth is perceived by indigenous peoples in quantitative terms is beneficial for future development. For Barham, „Wealth may be the key to unlocking the logic of the diversity seen in forest product extraction among forest people. […] Specific knowledge and skills relating to certain types of NTFPs extraction can be important assets, as intangible wealth," (Barham et al., 2000).

This departure from intangible wealth, traditional knowledge, can be reversed as underlined by Roldan and Lopez. If there is problem in evaluation of traditional knowledge, solution is to show Asheninkas potential market price at even more distant market than the one in Pucallpa city. Both participants wished to create business cooperation with Czech republic on fair-trade basis. Idea was to organize community-based workshop on production of traditional crafts under supervision of grand grandmother Maria and Lopez wife Rosa. Firstly, transmission of knowledge among community would materialize, secondly, products of the workshop would be sold in Czech republic and revenue sent to current account of teacher Lopez. The income would be used for development of the whole community.

The project was approved by the community leaders. However, it turned out to be unfeasible to produce first package until my departure. For instance, proper *tamshi* for basket making is scarce in rainforest and difficult to find especially in rainy season which was just about to start. As strength is necessary for its collection, only men can do it. Moreover, both men were concerned about quality of first products but promised to organize workshop in upcoming months.

Even though, the idea was postponed, we can interpret this call for action as pursuit for recovery of stronger community decision-making. According to Tobin (2001), both men have been trying to act against, "[…] culturally debilitating factor leading to erosion of traditional knowledge through lack of renovation including failure of indigenous leaders to maintain the highest standards." Moreover, Tobin (2001) supports the idea of community action, „Local communities and indigenous peoples […] may maintain and strengthen traditional knowledge and innovation systems through community action, recording of traditional knowledge, and securing its protection and revitalization through use in the development of responses to present and future problems and needs."

This chapter explaining aspects of community life is not abundant because understanding of socio-cultural background is crucial for any development project focused on smaller communities. Moreover, it informed us about interests of community authorities which is a good predisposition for direct empowerment based upon local needs.

6.7. Limits and Impacts of the Study

6.7.1. Film, Ethnic revitalization and Reflexivity

Visual anthropologist and ethnologist of Estonian origin Liivo Niglas repeatedly followed daily life of former indigenous rights activist Yuri Vella - leader of Nenet people of northern arctic Russia, „He is using modern technology to adjust to a changing environment, much like his forefathers adapted to the severe habitat of Western Siberian by sustaining themselves on fishing, hunting and reindeer breeding," (Niglas, 2011). Yuri Vella has been using movie camera in order to obtain evidences of violation of indigenous rights. Even though, the environment of Siberia and Amazon is completely opposite, it is important to understand socio-cultural ability not only individuals but whole societies to adapt to changing conditions. We now will shortly elaborate on important events of ethnic visual representations.

First movie not just *about* but *made by* Inuits was award-winning Atanarjuat (The Fast Runner) of director Zacharias Kunuk. This breakthrough happened in year 2001 and let to establishment of The Igloolik, Nunavut-based film production. (CBC News, 2011)

The same year it was created Native Networks website by National Museum of American Indian, „[…] in order to increase interconnectivity and information flow among native media organizations, media producers, and their audiences," (Native Networks, 2001). Nowadays, it serves as information source about 160 movies made by indigenous peoples. These are results of independent productions as well as participatory filmmaking projects run by NGOs as in case of Shipibo and Village Earth's affiliate Peruvian Amazon Indigenous Support Network. "Per our Shipibo allies' requests […] we facilitated participatory documentary film directed and produced by indigenous leaders and community members called Children of the Anaconda (*Paromea Ronin Bakebo*). This film highlighted the challenges they are facing, but also their hopes for the future. This was a seminal event in building trust and strengthening our relationship with the Shipibo," (Village Earth, 2007).

Due to democratization of audiovisual technology, more and more people around the world are able to adjust themselves and use media for their own purposes.

This ability of multimedia was intuitively recognized by my own guide Roldan Vasquez Rios who very fastly identified that being given voice through movie camera he can speak not solely about way of collecting, processing and use of certain species but include his own opinions towards sustainable management of San Mateo reservation.

In this sense, he adapted similarly to Yuri Vella and I have decided not to cut off his testimonies since it has become complementary reflection to plant practice itself.

One of the impacts of the study is therefore contribution to ethnic revitalization throughout re-evaluation of traditional knowledge as preserved in audiovisual way.

In character of Roldan, I have found representative member of the community willing to talk and share his knowledge but it did not happen without obstacles. “Snowball” method helped to overcome the barriers as indicated by KIVU General Guidelines (2005), „Every traditional community, however, is aware of who is best in various areas of traditional knowledge,“ and Gamborg (2012), “Often, active selection of key participants may be fare better than randomly sampling the community.”

Moreover, I have complied to Article 23. of UN Declaration, “Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development.”

6.7.3. Limits of the Study

This chapter summarizes questionable facets of the research which might lead to failure in acquiring traditional knowledge from its holders. By doing so, I will respond the Ruby’s call for scientific reflexivity (2000).

Given the fact that, according to Eriksen (2008), anthropologist ought to become familiar with the community before he or she starts to work, it might be argued that 30 days of ethnobotanical research at one site is not satisfactory.

“Clearly, the longer time in the field, the greater the opportunity to build rapport and collect more data. […] More importantly perhaps, timing should account for seasonal variations on how people interact with plants. […] Seasonality may also have important logistical implications; for example, many tropical areas remain inaccessible or hard to reach during monsoon or the rainy season,” (Alexiades, 1996).

We have chosen for the research September and November because it is the end of dry season with lower precipitation. By this decision, acceptability for the researchers was prioritized to possible seasonal variations. Fuller (2007) suggested to witness the plant practice at least once prior to shooting. Time restrictions did not allow me to meet this suggestion. Next, due to financial restrictions, I had to carefully consider any payments for guidance and preparation of remedies.

Technical limitations were given by highly sophisticated movie camera which had to be protected against humidity. As recognizable in case of *Attalea phalerata*, it resulted in partial fogginess of the picture. Moreover, it is necessary to solve the problem with recharging batteries in the middle of Amazon rainforest. Luckily, I have purchased functional second-hand solar panel in Pucallpa.

Subsequently, technical aspect of the investigation was not approved by older generation of women which might act contradictory if one is to focus strictly on knowledge of elders. Moreover, from the gender point of view, one might assume that the research is not balanced. What is uneasy to evaluate is lifetime impact of the research itself. Modernity represented by the researcher can lead to faster deterioration of traditional culture.

6.7.2. Impacts of The Study

As in any other research dealing with culture, investigators strive to acquire relevant information *about* or/and *from* its holders. It does not matter whether you observe behavior of yak herders in Tibet or investigate postmarital residence of Tzeltal Indians. Question is how to deal with people in order to obtain something meaningful or, even better, truthful. I have departed from this understanding in preparatory phase of the research.

I perceive filmmaking with ethnobotanical purposes experimentally evolving discipline since, to my knowledge, there are no referential methodologies. Therefore, the study necessarily acquired reflexive stance as suggested by Jay Ruby (2000).

In the center of the study, there are definitions of ethnobotany, traditional knowledge and visual anthropology. If we summarize all of them into one keyword, we will find impressive overlap. Ethnobotany is about *interaction* between people and plants, traditional knowledge is manifested by *practice* in every day life and visual anthropology studies *visual representations* of culture. Interaction and practice are both audiovisually observable representations. This connection is the most significant precondition for impact of the diploma thesis. The assumption was during the field research approved.

In unique article Rebekah J.M. Fuller (2007) underlined the advantages in use of video in ethnobotanical research:

1) it is valuable in recording the details of plant practices including medicinal, harvesting of forest products, agricultural practices and food preparation;
2) video has the ability to record the plant practice in its entirety, as opposed to relying on the memory of practitioners to explain all of the steps in an interview;
3) it has advantage of being able to physically link a cultural practice to a voucher specimen;
4) it captures cultural nuances;
5) strength of video is the ability of the plant practice to be revisited;
6) in on-line herbaria, it has ability to combine multimedia and voucher specimens.

Let us discuss the points while comparing written and audiovisual results of the research.

Excluding the oldest women who tended to be very suspicious having movie camera or not, I conclude that utilization of tools for audiovisual recording did not encounter any negative response.

To record the plant practice was one of the objectives of the research. In case of four preselected plants (*Aphandra natalia, Euterpe precatoria, Heteropsis spp.* and *Uncaria tomentosa*), I succeeded in preservation of whole process of collecting, processing and use. Eight of them were either protected (*Cedrela odorata, Ceiba pentandra, Copaifera paupera, Perebea humilis* and *Spondias mombin*) and therefore the use was restricted to collection of NTFPs (not practiced) or unfinished (*Croton lechleri, Attalea phalerata*) due to lack of time.

In terms of accuracy and reliability which was a hallmark of my ethnobotanical research I find very alarming following finding. According to UNESCO Intangible Heritage List, every single one of 232 items has its own documentary movie describing the vivid features of preserved tradition (UNESCO, 2012). It is surprising that web pages do not provide us with methodological background of their production because of diversified national state responsibility. Lack of serious unified attitude indicated underestimation of audiovisual preservation. On contrary, united approach can be easily observed in visual ethnobotanical video from San Mateo.

In case of protected and unfinished plants, I have included the most significant remarks of the participants in written form.

Even though, I find very valuable reassessment of the final films based on screening to the community, I have done my best to reflect at least upon the material in camera right in the field while discussing results with my guides. All material was therefore revisited twice in order to avoid any distortion. Practical impact on the community remains to be investigated since the package with DVD (Mr. Fernandez owns the DVD player), photographs and educational materials for elementary school have not been sent yet.

Next, instead of voucher specimen, I have tested use of referential photographs made from Tropicos.org database (enclosed in Annexes). The participants recognized all plants without any inconveniences which supports findings of Evert Thomas and his team (2002). However, as being non-ethnobotanist, I could not identificate subtle differences.

To answer difficult question whether I have captured cultural nuances, it is a matter of professional opinion. I do not consider myself eligible to respond. Rather, I assume that the research met ideals of Macdougall's „corporeal image" (1998) and Pink's sensoriality (2009) but failed in Petráň's concept of „thinking of processes sculpting in time" because my work tends to be more ethnographical i.e. descriptive.

Reflection on positive effect of on-line herbaria was precisely made by Agrawal (2002), "The popular strategy of storing specific elements of information in a database is an example of *ex situ* conservation of indigenous knowledge systems. […] They are intended to protecting indigenous knowledge in the face of myriad pressures that are undermining the conditions under which indigenous peoples and knowledge thrive. Second, they aim to collect and analyse the available information, and identify specific features that can be generalised and applied more widely in the service of more effective development and environmental conservation."

The plan is to offer acquired material to one of South American traditional knowledge databases and to discuss with them future propagation of audiovisual preservation which brings us closer to intended impact of the thesis.

Via dissemination of my findings, I will strive to inspire, apply and actively intervene in sustainable development efforts as it is in nature of applied anthropology. Considering grass-root organizations as important promoters of empowerment, I have been already in touch with UNEP, AIDESEP, Village Earth and Amazon Conservation Team. These NGOs working along with indigenous peoples in Peruvian Amazon or elsewhere will be informed and I will offer my services as a consultant. "This aspect is especially promising if representatives from local stakeholder groups participate in the process of filmmaking because the resulting films can be seen as the participants' own representations," as supported by visual anthropologist Martin Gruber (2008).

7. Conclusion

The conclusion of the diploma thesis is designated according to given scientific questions. Let us firstly define cultural dimension and changing relationship between Asheninkas and their environment, following with summary of methodological questions.

1) ***In what extent is Asheninka aware of rainforest's socio-economical importance for their life?***

Once, the oldest generation of Asheninkas has chosen to reach deeper into Amazon in order to improve livelihood. If they create any sacred places for worshiping and tight ethnic identity with the place, then their offspring has already lost this connection. Today, their descendants orient outside the nature towards the city to satisfy the same need. Acquisition of formerly unknown products is considered as a pursuit of happiness. Distance is therefore perceived as a problem and environment as an obstacle.

However, the latent opinion that the rainforest must remain protected because of its biodiversity and general usefulness does exist at San Mateo. It remains unclear what made Asheninkas not to participate in profitable illegal logging but rather switch to current endeavor for sustainable management of the reservation. Even though, residents of San Mateo recognize that the land and nature is their most valuable asset, there is nonetheless significant conservational potential as well as potential for marketing of NTFPs. The presumption for survival of traditional knowledge in means of the community is therefore marketing of selected NTFPs packed to this extraordinary know-how.

2) ***How do Asheninka nowadays value traditional knowledge?***

The most obvious signal that indigenous knowledge is something belonging to past was rejection of opportunity to learn traditional techniques. Middle generation has been underestimating natural resources available in the local environment which leads to decreasing self-sustainability and increasing market dependency. This effect is likely to multiply in the youngest generation because parents hesitate to teach their children something estimated as redundant for their future life. In long term, it will result in weakening relationship with rainforest due to absence of practice and loss of orally

transmitted knowledge since there is nobody in community willing to record it. This change is driven by evolving notion of wealth. Excluding farming and fishing, Asheninkas feel motivated to develop activities generating direct monetary income.

The most important integrating factor are family ties. However, integrity of the community is not supported by unifying spiritual or secular leadership. Paradoxically, inhabitants of San Mateo with non-Asheninka origin are those urging for safeguarding of traditions and its preservation against cultural deterioration. They advocate for ethnic revitalization via strengthening of value of intangible wealth. Since the community has become already familiar with audiovisual preservation, they find this way promising for future efforts. Therefore, I recommend project focused on preservation of traditional knowledge and its transmission.

3) ***What are the phenomena causing loss of traditional knowledge in Asheninka community?***

As certain causes were already mentioned in previous answers, I will enhance our understanding with other reasons. Reinforced by outer orientation, importance of indigenous language has been decreasing. It is given partly by mixed marriages with mestizos who married Asheninka women and brought different customs. This fact might lead to oblivion of certain aspects of knowledge bound to language nuances as well as to transformation of social identity which is strongly determined by mother tongue.

Next, exposing children to prefabricated products might result in creating corresponding habits and higher familiarity with manufactured commodities than products of natural origin. It will therefore hinder the interest of youth in the rainforest. Although, well-known medicinal plants will not be forgotten since they are frequently used, trust in natural remedies healing serious illnesses will diminish with introduction of pharmaceutical drugs.

4) ***How will Asheninka react being shot by camera and shown referential photographs?***

I conclude that utilization of tools for audiovisual recording did not encounter any negative response. However, it is very sensitive for older generation which is not accustomed to being exposed to technical device. Distrust might be related to historical experience based on decades of armed fighting against intruders. Moreover, members of community recognized that, as it is in nature of visual representation, they can use their own image for political purposes. Thus, the record of ethnobotanical knowledge included reflection upon current problems of the community and dissatisfaction with widespread unsustainable management of the Peruvian Amazon.

Recognition of prepared referential photographs of selected species was successful. However, due to my limited knowledge of botany, I would not be able to distinguish subtle dissimilarities in species variations. The method of referential records proved to be suitable for remote regions where the researcher is under time, financial and weather pressure.

5) ***Are methods of visual anthropology applicable for preservation of traditional knowledge?***

According to audiovisual results, the approach proved to be valuable in protection of traditional knowledge as intangible cultural heritage of humankind. Preservation is however only one aspect of the more complex question. Culture is not separated from people who are in constant flux and adaptation; it remains unknown how useful the audiovisuality might be for ethnic revitalization via re-evaluation of inherited knowledge itself.

In more practical sense, results are easily distributed to potential beneficiaries ranging from state governments, NGOs or individuals. Since the importance of traditional knowledge was already recognized in terms of biodiversity protection, community development and indigenous rights, these stakeholders can profit out of specific

knowledge depicted directly in visual terms. Relevant information is basis for relevant policy-making as well as development.

For future research, I have proposed working hypothesis: “Cultural preservation and natural conservation might presumably have mutual synergic effect.”

6) ***What are advantages and disadvantages in utilization of visual anthropology methods in the context of ethnobotanical research?***

There is no ethnobotany without traditional knowledge. Struggle between time and cultural deprivation lies deep in the core of the discipline. Since one of the features of both expressions is practice of collecting, processing and use of the plants, audiovisual approach of culture-related discipline is indispensable. Video in ethnobotanical research is considered as underutilized and findings of the thesis supports its incorporation into set of methods. It can be used not only as a direct result of observation through lense of camera but as a material for subsequent analysis.

Given the fact that digitalization and Internet has already connected whole planet, it might serve not only to purely scientific purposes but even to easier popularization of ethnobotany. Linkage to voucher specimens which are usually dry, fragile and faded is central advantage as well as audiovisual preservation of traditional knowledge in on-line herbaria. Moreover, it is not necessary to become familiar with complex equipment and theoretical background while researchers can unite in multidisciplinary teams.

Disadvantages are mainly related to technical obstructions which can be overcome by technological development.

Despite the certain degree of experimental character of the research, I dare to predict bright future of relationship between visuality and ethnobotany. Establishment of the new sub-field labeled „visual ethnobotany“ is not far away.

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Annexes

Research participants

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Czech - English - Asheninka - Spanish vocabulary

dobrou noc	good night	tsrendiri	buenos notes
dobrý den	good day	kitaityriwe	buenos días
nashledanou (někdo odchází)	goodbye	hatemi	hasta la vista
nashledanou (já odcházím)	goodbye	hatama	hasta la vista
děkuji	thank you	pasonki	grácías
ano	yes	ari	si
ne	no	te	no
déšť	rain	ňac	lluvia
prales	rainforest	antami	monte
strom	tree	inshanto	árbol
rostlina	plant	pangirentsi	planta
řeka	river	fincha	río
proud	stream	purma	corriente
ryba	fish	shyma	pescado
voda	water	xyňa	aqua
jídlo	food	guanaouche	comida
noc	night	chugripagtin	noche
miluji tě	I love you	nokoakimi	tea mo
list	leaf	oshi	hoja
květ	flower	tejaki	flor
plod	fruit	chochoki	feto
kůra	bark	chegat	ladrido
kořen	root	oparitha	raíz
bavlna	cotton	ampi	algodón
koruna	canopy	chabouto	corona
cesta	path	ahnots	forma
vlevo	left	ambat	a la izquierda
vpravo	right	acopero	a la derecha
pomoc!	help!	pamitacoden	ayuda
had	snake	ňauakainkari	serpiente
tygr	tiger	manitsi, kasheka	tigre, otorongo
opice	monkey	shito (makak), pito	mono
kuře	chicken	shiapa, dzapaniki	pollo
brouk	beetle	sani	escarabajo

moucha	fly	cito	volar
náčelník	chief	kuraka	jefe
bratr	brother	ari	hermano
vesnice	village	apiota	pueblo
dům	house	pankots	casa
nůše	utensil	thato	nuse
druh palmy	type of palm	tonero	aguaje
tabák	tobacco	shere	tobacco
druh trávy	type of grass	kataoshi	turulco
druh stromu	type of tree	ponkito	ishanga
druh stromu	type of tree	tseroki	renaco
druh rostliny	type of tree	ivinki	piri piri
maniok	manioc	kaniri	yuca
druh ovoce	type of fruit	popoki	cocona
opice uakari	uakari monkey	xero	huapo
opice alouatta (vřešťan)	alouatta monkey	shenontsi	coto
opice tamarín	tamarin monkey	tsipi	pichico
agouti	agouti	shabo	anuje
pásovec	armadillo	etsi	caratshupa, armadillo
pekari	peccary	kitairiki	sahino
nosál	coati	kapeshi	achuni
kapybara	capybara	ipetsi	ronsoco
tapír	tapir	kemari	sachavaca
želva chelonoidis	chelonoidis turtle	konoja	motelo
jelen	deer	maniro	venado
druh hada	type of snake	camatonki	cascabel
druh hada	type of snake	cempiro	shushupe
druh hada	type of snake	ratsishtakuri	ergon
druh hada	type of snake	kintaunki	loro machaco

Pronunciation:	ch [č]
	sh [š]
	x [ch]
	j [j]
	c [at the beginning of the word as Czech c]
	c [in the middle of the word as Czech k]
	k [everywhere as Czech k]
	b [everywhere as Czech b]
	y [everywhere as Czech y]
	rest of the letter is everywhere same as in Czech language

Aphandra natalia

piasabba in Peru

Figure 3. A. Stand of *Aphandra natalia*. B. Male inflorescence. C. Base of petiole with numerous brown scales. D. Infructescences. E. Female inflorescence. F. Leaf sheath with fibers. G. Single tree after harvest. H. Infructescence cut in half making the immature jelly-like endosperm visible. A, C, H: Rio Corrientes, Peru (2007). Photographed by Mikkel Boel Sørensen. B, D, E: Sucua, Ecuador (1985). Photographed by Henrik Balslev. G, H: Rio Pastaza, Ecuador (2004). Photographed by Finn Borchsenius.


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Attalea phalerata - Scheelea brachyclada

Shapaja in Peru


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NEW YORK BOTANICAL GARDEN
01137613
EMBRAPA - CENTRO NACIONAL DE RECURSOS GENETICOS
CENARGEN
A.D.SCARIOT et al 238
DAP= 41cm
Nº DE FOLHAS= 22
COMP. FOLHA= 740cm
Nº DE PINAS/LADO= 224
PINAS - APICAL 1,5 x 30cm
- MEDIANA 5,2 x 112cm
- BASAL 1,5 x 81cm
CACHOS FEMININOS=2
CACHOS MASCULINOS= 8

Cedrela odorata

cedro rosa, acajou femelle, cedre espagnol, cedre, cedro-do-amazonas, cedro hembra, cedro, cedro colorado, cedro rojo, ku-che, Spanish cedar

Ceiba pentandra

Kapok in Peru


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BOTANICAL GARDEN
HERBARIUM
№ 2639167
copyright reserved
MO
FLORA DE NICARAGUA
DEPARTAMENTO DE MASAYA
Ceiba pentandra (L.) Gaertner
Tree 25 m, flowers cream; leaflets
Parque Nacional Volcán Masaya.
Dry forest, on southeast slope
of Volcán Masaya. Elev. 400 m.
Fecha: February 9, 1975 Colector: David Neill 3130
HERBARIO NACIONAL DE NICARAGUA

Copaifera paupera

copaiba in Peru

Croton lechleri

Sangre de grado, sangre de drago, dragon's blood, drago, sangue de drago, sangue de agua


HERB. MUS. PARIS
HERBIER E. DRAKE
ISOTYPE
Croton lechleri
Müll. arg.
Typus !
Linjat 1938


Sangre de Grado
LA GOTA MILAGROSA
JALK
SANGRE DE GRADO
(CROTON LECHLERI)
JALK
Solución Oral Gotas
30 ml.

Euterpe precatoria

mountain cabbage, açai, açaizeiro, açaí-do-amazonas, açaí-solitário, asaí and palmiche, wassaï in Brazil, manaca in Venezuela

huasi in Peru

Heteropsis spp.

tamshi in Peru

Heteropsis oblongifolia

Heteropsis flexuosa

Minquartia guianensis

huacapu, huacapú amarillo, huacapú negro, huacapú in Peru

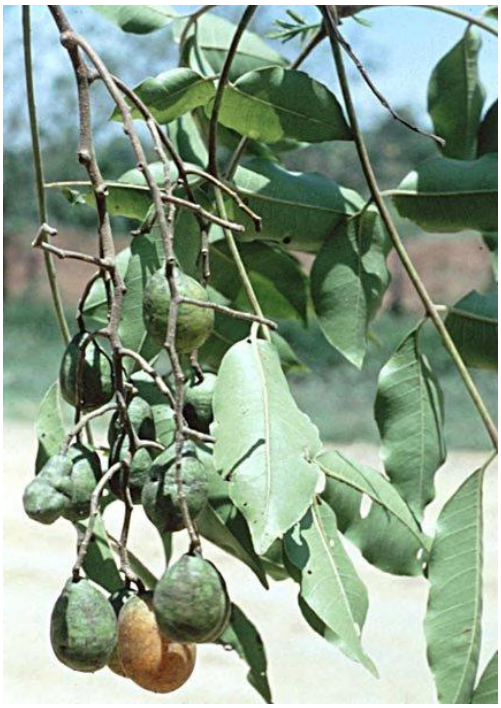

MISSOURI
BOTANICAL GARDEN
HERBARIUM
№ 2726451
PLANTS OF COSTA RICA
Family: Olacaceae
Common name: "Nard"
ORGANIZATION FOR TROPICAL STUDIES

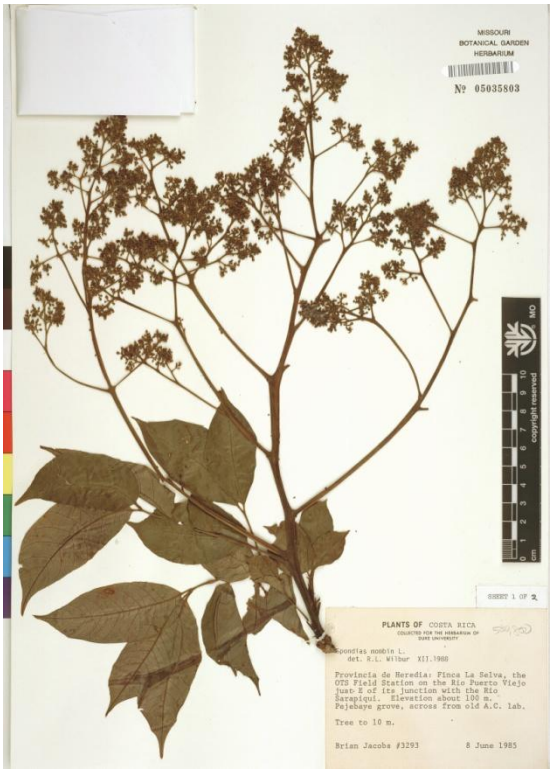
Perebea humilis

chimigua in Peru

Spondias mombin

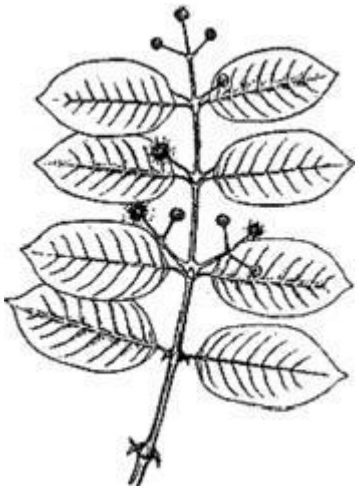
ubos in Peru

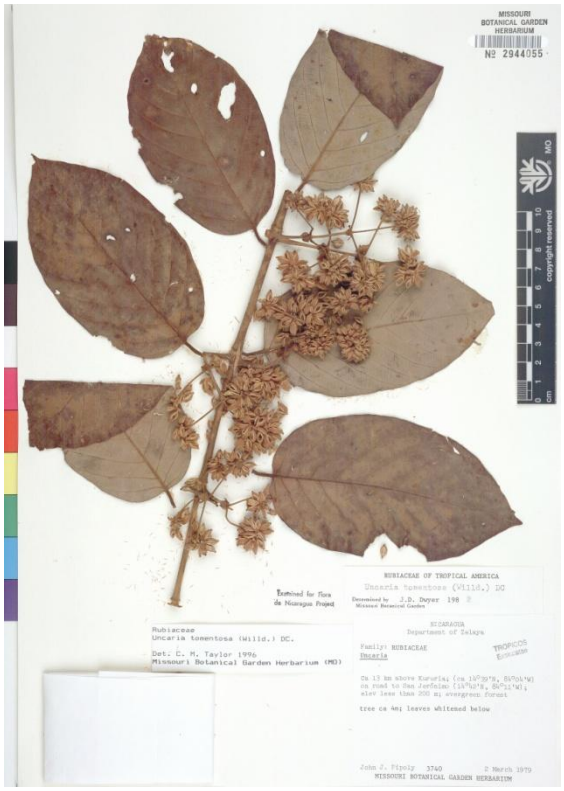



MISSOURI
BOTANICAL GARDEN
HERBARIUM
№ 05035803
PLANTS OF COSTA RICA
Spondias mombin L.
det. R.L. Wilbur XII.1980
Provincia de Heredia: Finca La Selva, the
OTS Field Station on the Rio Puerto Viejo
just E of its junction with the Rio
Sarapiqui. Elevation about 100 m.
Pejebaye grove, across from old A.C. lab.
Tree to 10 m.
Brian Jacobs #3293 8 June 1985

Uncaria tomentosa

Cat's claw, uña de gato (PERU) , paraguayo, garabato, garbato casha, samento, toroñ, tambor huasca, uña huasca, uña de gavilan, hawk's claw, saventaro




MISSOURI
BOTANICAL GARDEN
HERBARIUM
№ 2944055
RUBIACEAE OF TROPICAL AMERICA
Rubiaceae
Uncaria tomentosa (Willd.) DC.
Det: C. M. Taylor 1996
Missouri Botanical Garden Herbarium (MO)
NICARAGUA
Department of Zelaya
Family: RUBIACEAE
Uncaria
TROPICOS
John J. Pipoly 3740
MISSOURI BOTANICAL GARDEN HERBARIUM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