



XI CONGRESO INTERNACIONAL DE
ETNOBIOLOGÍA
SESION 5
ABSTRACTS

TEMA 5 LOS CONOCIMIENTOS TRADICIONALES, PROMOVRIENDO
EL SUSTENTO LOCAL Y LA SEGURIDAD ALIMENTARIA

**THEME 5 INDIGENOUS KNOWLEDGE PROMOTING
LIVELIHOODS AND FOOD SECURITY**

25 al 30 Junio 2008

Cusco, Perú

OVERVIEW / SINOPSIS.....	4
ABSTRACTS / RESUMENES.....	5
TEMA 1: LAS AVES Y SU RELACIÓN CON LA PROTECCIÓN DEL PATRIMONIO BIOCULTURAL COLECTIVO.....	5
1. Patrimonio Zoocultural (Pzc): Definición, Abordaje E Importancia, por Mauricio Vargas-Clavijo.....	5
2. Mitos Y Leyendas Sobre Los Zamuros (Aves: Cathartidae) Entre Los Pueblos Latinoamericanos por Mauricio Vargas-Clavijo.....	5
3. Las Aves en La Música Toba. Documentación Y Análisis por Paola Cúneo, Mauricio Maidana y Andrés Porta.....	6
TEMA 2: APROXIMACIONES PARA EL ENTENDIMIENTO DE LAS PRÁCTICAS TRADICIONALES INDÍGENAS.....	6
4. Indigenous knowledge means a lot: An interdisciplinary approach on wild gathered orchids under threat of extinction in a HIV/AIDS affected community, Southern highlands of Tanzania by Joyce Francis Xavery Challe and Lisa Leimar Price.....	6
5. The right to conserve our knowledge: Tsimane’ ethnobotanical learning by María Ruth Martínez.....	7
6. Etnobotánica De Recursos Dendroenergéticos En El Nordeste Antioqueño. Una Aproximación Cuantitativa por Carlos Alberto Gutiérrez and Mauricio Sánchez Sáenz.....	8
7. Estudio Etno Ecológico De La Alimentación De Los Animales Del Ganado, Una Posibilidad Para Comprender La Evolución De Los Paisajes (Cévennes, Francia) por Richard Dumez.....	8
8. Penan - hunter-gatherers of Borneo: Rights, Expression and the Rainforest Landscape by Peter Sercombe.....	9
TEMA 3: APROXIMACIONES PARA EL ENTENDIMIENTO DE LAS COSMOVISIONES INDÍGENAS.....	10
9. Cosmovisión Lacandona Y Su Relación Con La Conservación De La Selva Alta Perennifolia En Chiapas, México por Eréndira Juanita Cano-Contreras, Ramón Mariaca Méndez , Enrique Eroza Solana.....	10
10. We Come From Trees: The Poetics Of Plants Among The Jotí Of The Venezuelan Guayana by Egleé L. Zent & Stanford Zent.....	11
11. Nanacaltepec: Montaña Sagrada De Los Hongos por Ángel Moreno Fuentes.....	11
TEMA 4: PATRIMONIO BIOCULTURAL COLECTIVO Y CONSERVACIÓN.....	12
12. Tuberosas Nativas y sus Parientes Silvestres en la Zona Andina del Perú, Variabilidad Genética: Una experiencia de encuentro de Saberes por Dora Velázquez Milla, Juan Torres Guevara, Aldo Cruz Soriano.....	12
13. Clasificaciones Mbya-Guaraní sobre especies de Himenópteros. Usos y significación de la Miel en la Selva Paranaense, Provincia de Misiones, Argentina por Marilyn Cebolla Badie.....	13
14. Traditional Plant Use in Northern Peru and Southern Ecuador – Tracking two thousand years of Healing Culture por Rainer, Bussmann.....	14
TEMA 5: APROXIMACIONES PARA EL ENTENDIMIENTO DE LOS ESPACIOS BIOCULTURALES.....	14

15. Las plantas y los colores en la vida de las Yungas Argentinas por Lambaré, A, Hilgert, N, y Fabbio F.A.	14
16. The UK Allotment and its role in the Maintenance of Agrodiversity por Simon, Platten	15
17. El Solar May: Espacios de Práctica social por Diana, Lope	15
18. La Cosmvision Raramuri por Juan Daniel Villalobos	16
19. Trading names: Trader knowledge and cultural classification systems, in Andean Medicinal Plant Markets by Peter Wilkin.....	16
TEMA 6 – PARTE I: SISTEMAS DE SUSTENTO AFRICANO, SUS MODOS DE COGNICIÓN ETNOBIOLÓGICO Y CONTRIBUCIÓN A NUTRICIÓN, SALUD, Y SUSTANABILIDAD ECOLÓGICA	17
1. Cognition, Utilization and Weediness of Plants: Person-plant relationships in Acholi Area, Southern Sudan by SHIGETA, Masayoshi	17
2. The Agricultural Potential of the Enset-Based Livelihood System in the Highlands of Southwestern Ethiopia by MIYATA, Hiroaki	18
3. Sustainable Mode of Slash-and-burn Cultivation: The Invention of an Agroforestry System Utilizing Black Wattle (<i>Acacia mearnsii</i>) by the Bena People in Tanzania by KONDO, Fumi	19
4. Folk classification, perception and preferences of baobab products in West Africa: consequence for the species conservation and management by Assogbadjo Achille Ephrem.....	19
5. Plants, Soil and Experiences: Folk Categories Integrated with the Agricultural Knowledge among the Sandawe of Central Tanzania by YATSUKA, Harina	20
6. The Modes in Recognition of Banana Plants among the Baganda, Central Uganda by SATO, Yasuaki.....	20
7. Indigenous fruit trees of the Giriama people of Kenya: - potential to improve local livelihoods and conserve multipurpose biodiversity by Yasuyuki MORIMOTO, Patrick MAUNDU, Joseph FONDO, Bosco KAHINDI, Takashi FUKUSHIMA, Demetrius KWEKA.....	21
8. Agrobiodiversity, dietary diversity and nutrition status: Exploring possible linkages among rural farming communities by Patrick M. MAUNDU, Yasuyuki MORIMOTO, Yoshiaki NISHIKAWA, Daigo MAKIHARA, and Timothy JOHNS	22
9. Promotion of underutilized African leafy vegetables: Is knowledge of use and potential health benefits key determining factors for successful promotion? By Maryam IMBUMI and Patrick MAUNDU.....	23
10. Between Famine Food and Local Food: Indigenous Management and Utilization of Edible Aroids in Southern Ethiopia by Takeshi FUJIMOTO.....	23
CLOSING PRESENTATIONS/PRESENTACIONES DE CLAUSURA	24
Aids Orphans As Farmers: Uncovering pest knowledge differences through an ethnobiological approach in Benin. A Pre- Intervention Assessment by Rose C. Fagbemissi and Lisa Leimar Price	24
La Vicuña Silvestre desde la mirada de los niños y adolescentes en el Altiplano Jujeño por Wawrzyk, Ana Celeste and Vilá, Bibiana.	25

OVERVIEW / SINOPSIS

ORGANIZING COMMITTEE/COMITE ORGANIZADOR:

Jessica Herrera (Coordinator)
Faculty of Human Ecology
University of Manitoba, Canada

Coral Calvo Vargas, Marina Apgar and Nina Moeller (Co-Coordiators)
Association ANDES

OVERVIEW:

This session has been added to the Congress programme in order to provide a forum for those undertaking cutting edge ethnobiological research to share their methodology, findings and conclusions. The session will include oral presentations, panel discussions and poster presentations in order to showcase the wide range of research conducted globally in the field of ethnobiology. Participatory methodologies will be used to facilitate dialogue between academics, practitioners and indigenous peoples. We encourage academics and students to take the opportunity to share their research and to reflect upon current and future directions of the field, particularly with reference to its contribution to the protection and promotion of collective biocultural heritage and sustainable livelihoods.

SINOPSIS:

Esta sesión ha sido agregada al programa del Congreso con el fin de proveer un foro para compartir aspectos metodológicos, hallazgos y desarrollo teórico de las investigaciones etnobiológicas. La sesión incluirá presentaciones orales, en paneles y en pósteres, demostrando la amplitud y riqueza de la investigación etnobiológica global. Se utilizarán metodologías participativas para facilitar el diálogo entre académicos, practicantes y pueblos indígenas. Animamos a académicos y estudiantes de aprovechar la oportunidad de compartir su experiencia de investigación y de reflexionar sobre las direcciones actuales y futuras de la disciplina de etnobiología, en especial sobre su contribución a la protección y promoción del patrimonio biocultural colectivo y sustento local.

ABSTRACTS / RESUMENES

TEMA 1: LAS AVES Y SU RELACIÓN CON LA PROTECCIÓN DEL PATRIMONIO BIOCULTURAL COLECTIVO

1. Patrimonio Zoocultural (Pzc): Definición, Abordaje E Importancia, por Mauricio Vargas-Clavijo

El Patrimonio Zoocultural (PZC) es el conjunto de expresiones culturales relacionadas con la fauna. Puede abordarse desde las representaciones del Patrimonio Zoocultural Material (PZcM) (objetos físicamente palpables y elementos emocionalmente vivos) o las que corresponden al Patrimonio Zoológico Inmaterial (PZcI) (representaciones del imaginario individual y/o colectivo que se consideran “aparentemente invisibles”). Los trabajos enfocados a inventariar, analizar, discutir y aplicar el concepto de Patrimonio Zoocultural permitirán: a) comprender relaciones de los humanos con la fauna y su significado en las expresiones sociales de los pueblos; b) reelaborar, reconstruir y reconvertir los vínculos que el hombre tiene con los animales; y c) fortalecer los programas de uso, manejo y conservación de la fauna silvestre.

2. Mitos Y Leyendas Sobre Los Zamuros (Aves: Cathartidae) Entre Los Pueblos Latinoamericanos por Mauricio Vargas-Clavijo

Las aves han estado presentes en todos los planos de la vida humana desde la antigüedad hasta nuestros tiempos. Especialmente los zamuros (Aves: Cathartidae) han jugado roles significativos en la cosmología indígena y campesina de los pueblos latinoamericanos. Como parte de un trabajo llevado a cabo por los investigadores durante el año 2007, dedicado a los zamuros y su aparición en diversas representaciones materiales e inmateriales de diferentes culturas de América Latina, se compilaron algunos mitos y leyendas de interés científico-cultural. Se observó que este grupo de aves han sido protagonistas de la creación de la luz en distintas culturas (países andinos y Brasil), de la luna y el sol (países andinos y mesoamericanos), guardadores del “principio del fuego” (Brasil y Paraguay), asociados al origen de las personas (países andinos) y del tabaco (mito Munku, Brasil). Se notó que se han considerado como cuidadores-guardadores de secretos, encantos y tesoros, además de ser mensajeros de dioses con poderes divinos (países andinos), facilitadores del encuentro terrenal con espíritus de mortales (Colombia) y organizadores de fiestas con los demás animales de los bosques (Colombia, Brasil). Relatos sobre el origen de los zamuros y su aspecto pueden encontrarse en historias Wayuu y campesinas (Colombia), Kamayura (Brasil), y Uxmal (México). Adicionalmente, se encontró que las mujeres de algunas regiones del Chocó y Vichada (Colombia) e indígenas Tenetehara (Brasil) han sido representadas como cóndores, al igual que sacerdotes católicos (países andinos). Los zamuros han figurado como hechiceros causantes de enfermedades (Guahibo-Sikuani, Colombia). Se resalta el valor intangible de este tipo de expresiones de la cultura inmaterial por permitir la comprensión de concepciones, significados y relaciones, así como actitudes de aceptación, rechazo y aversión de los hombres con este grupo de aves. El empleo de relatos históricos de creación individual y/o colectiva (mitos, leyendas, cuentos, fabulas)

contribuyen grandemente a reconvertir formas de relacionarse con los animales a partir del desarrollo de programas de conservación biológica y cultural.

3. Las Aves en La Música Toba. Documentación Y Análisis por Paola Cúneo, Mauricio Maidana y Andrés Porta

El propósito de este trabajo es documentar y analizar el uso del canto de las aves en la música toba. En un trabajo anterior, a partir de listas de aves de la región y utilizando diversos medios audiovisuales fueron realizadas encuestas etnobiológicas tanto con tobas procedentes de diferentes sitios de Chaco residentes en Bs. As como en trabajos de campo realizados en El Espinillo, El Chaco. Posteriormente, utilizando el programa Shoebox, se desarrolló, a partir de los datos recolectados, una base de datos etnobiológicos de las aves. El trabajo que presentamos utiliza esta base y consta de dos partes.

En la primer parte se documenta, utilizando textos en toba, el papel que juega la imitación del canto de las aves tanto en el entrenamiento del músico como en la elaboración de material temático de las canciones que se tocan con el nviq (violín toba). Se especifican asimismo las especies de aves involucradas en estas actividades musicales. Los materiales recolectados que se utilizan en esta sección se adjuntan en formato de audio y en transcripción en el alfabeto en uso de la lengua (Buckwalter, 80) con su correspondiente análisis lingüístico.

En la segunda parte se analizan tanto las relaciones entre características acústicas del canto y la respectiva imitación (se utilizaron el programa Praat y archivos procedentes de www.xeno-canto.org) como así también las estructura formal de las piezas que a partir de la imitación del canto de las aves se interpretan con el nviq (violín toba). Se anexan tanto los registros de audio como las transcripciones utilizadas en el análisis.

TEMA 2: APROXIMACIONES PARA EL ENTENDIMIENTO DE LAS PRÁCTICAS TRADICIONALES INDÍGENAS

4. Indigenous knowledge means a lot: An interdisciplinary approach on wild gathered orchids under threat of extinction in a HIV/AIDS affected community, Southern highlands of Tanzania by Joyce Francis Xavery Challe and Lisa Leimar Price

Conservation of wild plants of economic use needs a careful and deliberate effort from the conversationalist and the people using the resource. The paper advocates it is best for species diversity conservationist to get acquainted with indigenous people and understand their knowledge on the wild species in question. We discuss the issues of how there is always a possibility of underestimating or overestimating wild plant species under threat if indigenous people are not included in the research. The paper presents how the use of interdisciplinary approach have managed to come up with the identity of wild gathered orchid species which are now under threat of extinction. The paper is trying to provide sufficient data for rescuing endemic orchids listed under CITES and under threat of extinction due to gathering. Since the study area is among forest community highly affected by HIV/AIDS, orchid gathering for economic purpose have been essential to sustaining their livelihoods. The paper explains how the use of list task, and the calculating

the cognitive salience Index (CSI) technique have managed to have a list of all names used in the study area, classify, identify and afterwards matching the indigenous names with botanical names. Furthermore the paper illustrates how the use CSI managed to indicate which orchid species are more salient to the indigenous people and relates to scientific identification. Further synthesis of the paper explains how CSI, scientific identification and ethnoecology managed to be correlated with the species found on the gathering sites. The paper explains how this can be correlated and interpreted to a better understanding in conservation strategies. Further investigation was done within orchid gatherers categories aiming at investigating if there is lack of indigenous knowledge transmission to orphans after their parents have died from HIV/AIDS related illness. The results of this study showed a remarkable relationship between orchid species more salient to indigenous gatherers and the species which are under threat of extinction. Thus implying that the species more salient to gatherers are the ones which have been harvested most and hence under threat of extinction. Further findings on orphans as one of the gatherer categories most often fails to identify accurately the exact marketable orchid species and hence ending up with rejected orchid tubers. Each rejected orchid tuber implies one more orchid plant from the land hence decline in species biodiversity. This paper suggests there is lack of traditional indigenous knowledge transmission from parents to children in a gatherers forest community.

5. The right to conserve our knowledge: Tsimane' ethnobotanical learning by María Ruth Martínez

The presentation here proposed explores how children from an indigenous Amazonian group of foragers and farmers in Bolivia, the Tsimane', learn plant traditional knowledge, both theoretical information as well as applied skills. Ethnobotanical knowledge is highly valued because it has proven to be of pivotal importance to biological conservation, local health, nutrition, human cognition and cultural identity, among others. However, despite awareness of the importance of conserving this knowledge for the future, how this is acquired, accumulated and transmitted has not been studied in depth because most previous ethnobotanical works focus on knowledgeable adults rather than on children. This research has a novel approach aiming to discover which plants children learn first, and showing how learning this critical cultural knowledge is shaped by experience and teaching by close kin. Preliminary analysis shows that children's knowledge is positively associated both with parents' and siblings' knowledge and that children tend to recognize wild plants commonly used rather than rarer species. These results are important because they stress the role of family for learning and also show that children know some plants growing far in the forest due to their interactions with them.

The research presented has the potential to impact the development of policies aimed towards the active participation of indigenous peoples in their right to conserve their ethnobotanical knowledge by giving a picture of its pattern of acquisition and factors determining it during childhood, and discussing suggestions for its long term conservation situating it into the Tsimane's current social and economical life in their fragile environment.

6. Etnobotánica De Recursos Dendroenergéticos En El Nordeste Antioqueño. Una Aproximación Cuantitativa por Carlos Alberto Gutiérrez and Mauricio Sánchez Sáenz

Los recursos dendroenergéticos son utilizados por dos terceras partes de la población mundial y el impacto que tienen estos sobre los bosques naturales es considerado alto. Una aproximación al conocimiento de estos recursos mediante una perspectiva etnobotánica en la cual se considere el conocimiento local, podría ser importante en un programa de uso y manejo de recursos naturales. En la presente investigación se realizó una caracterización del uso de los recursos dendroenergéticos en dos municipios del nordeste antioqueño (Colombia) mediante una perspectiva etnobotánica y se comparó el conocimiento local y el conocimiento científico mediante la aplicación de un índice cultural y uno de laboratorio. Adicionalmente se implementaron alternativas tecnológicas (fogones ecológicos) con el fin de evaluar su efecto sobre el consumo de leña y se publicaron los resultados del proyecto a través de una cartilla educativa. Los resultados encontrados muestran una utilización de 36 especies de buena calidad leñera en ambos municipios y una notable concordancia, al menos de manera cualitativa, entre el conocimiento local y el conocimiento científico o de laboratorio. Los fogones ecológicos, a su vez, contribuyeron con una disminución hasta del 60% del consumo de leña. Estos resultados indican que el conocimiento cultural puede ser tenido en cuenta en un programa de manejo y conservación de recursos dendroenergéticos, aun cuando se anota el grado acelerado de erosión al que están sometidos. Alternativas tecnológicas como el fogón ecológico contribuyen significativamente a disminuir el impacto sobre los bosques debido al consumo de leña. Esta investigación abre las puertas a los trabajos en etnobotánica cuantitativa para Colombia así como la implementación de alternativas sencillas, sostenibles, encaminadas a disminuir el impacto sobre los ecosistemas naturales y contribuir con el mejoramiento de la calidad de vida de los pobladores locales.

7. Estudio Etno Ecológico De La Alimentación De Los Animales Del Ganado, Una Posibilidad Para Comprender La Evolución De Los Paisajes (Cévennes, Francia) por Richard Dumez

El objetivo de esta comunicación es mostrar el gran interés de la etno ecología como herramienta para comprender las prácticas y conocimientos de manejo populares y locales. Así como sus implicaciones en la evolución y la conservación de los paisajes. Esta investigación se llevo a cabo en las montañas secas (1000-1500 m) de las Cévennes (Francia del sur) donde existe una práctica extensiva de ganadería (ovina, caprina, bovina) en plena evolución (éxodo rural, modernización de las prácticas agropecuarias, ...). Este estudio se focaliza en las prácticas y conocimientos de los ganaderos con respecto a la alimentación de los rebaños.

El conjunto de los datos obtenidos permitió elaborar una clasificación de la alimentación de los animales ganaderos. Esta clasificación se constituye de numerosas categorías etnoscientíficas, por ejemplo "la hierba" (en francés, "l'herbe") que agrupa diferentes elementos ("la hierba de pastizales" = "l'herbe des pâtures"; "heno/forraje" = "foin/fourrage"; "rebrote(s)" = "regain(s)/repousse(s)", o "el alimento/el(los) complementario(s)" ("l'aliment/le(s) complément(s)"). Afirmaciones como "la castaña... eso vale un grano" permitió describir otra categoría "englobante" que contiene los alimentos que son socialmente valorizados: por su alto valor nutritivo, son alimentos primordiales en momentos importantes de la vida del ganado (nacimiento, celo,...).

El análisis preciso de esta clasificación brinda informaciones sobre la relación que existe entre las prácticas de los ganaderos y el territorio. En tiempos pasados, los ganaderos utilizaban dos recursos alimenticios diferentes : la hierba de pastizales por un lado, y los cereales y forrajes producidos en sus campos de otro lado. Actualmente, los ganaderos diversifican estos recursos alimenticios. A estos alimentos tradicionales, se les pueden agregar ahora productos que resultan de la intensificación de la agricultura local, o que son comprados (cereales, heno, granulados, productos a base de soja). La transformación de las prácticas tiene un impacto sobre la naturaleza. El análisis de la clasificación, obtenida a través de un estudio etno ecológico, permite entender las consecuencias de las estrategias de manejo y de elección alimenticio de los ganaderos sobre los paisajes y la biodiversidad.

8. Penan - hunter-gatherers of Borneo: Rights, Expression and the Rainforest Landscape by Peter Sercombe

Borneo Island sits astride the equator, and is 750,000 square kilometres in area. It had an estimated population of 15 million people at the beginning of the 21st century and is divided politically among Brunei Darussalam (Brunei), Indonesian Kalimantan and the East Malaysian states of Sarawak and Sabah. There are three main ethnic groups in Borneo, Chinese, Dayak and Malay.

The Eastern Penan are part of the Dayak group of peoples who are generally seen as indigenous to Borneo and non-Muslim. The ethnonym Penan is used here generically to refer to those who were, have been or, in a few cases, continue to live as nomadic hunter-gatherers, i.e. people whose economies are based on hunting wild game, fishing and gathering uncultivated plant foods, without plant or animal domestication other than dogs (cf. Lee and Daly 1999).

Eastern Penan in Sarawak and Brunei currently number around 11,000 people and thus constitute a clear ethnic minority. Detailed information about the Eastern Penan has only been available since the 1950s (prior to which relatively little had been written of Borneo's hunter-gatherers), including Needham (e.g. 1953, among others) comprising ethnographic work, mostly on Eastern Penan; Langub's (e.g. 1972) ongoing interest in and accounts of Penan transition to settlement; as well as Penan reactions to development, including formal education (Sercombe 2008).

Based on personal fieldwork, drawing on examples of Penan speech, and supported with video footage, this paper describes Penan expressions of their relations with the landscape they inhabit as well as their difficult interaction with state and national governments, who wish all Eastern Penan to be settled. This paper argues that the diminishing circumstances of the Eastern Penan reflects, to a greater or lesser degree, the conditions of hunter-gatherers across much of the world; and itemises particular issues they face, foremost among which are land rights and political autonomy.

TEMA 3: APROXIMACIONES PARA EL ENTENDIMIENTO DE LAS COSMOVISIONES INDÍGENAS

9. Cosmovisión Lacandona Y Su Relación Con La Conservación De La Selva Alta Perennifolia En Chiapas, México por Eréndira Juanita Cano-Contreras, Ramón Mariaca Méndez , Enrique Eroza Solana

Tozzer (1982 [1907]) fue el primer etnólogo en describir la cosmogonía lacandona y afirmó encontrar en ritos y creencias, reminiscencias de la antigua religión del Clásico Maya, llamándoles *supervivencias culturales*. Sin embargo, Villa Rojas (1985) afirmó que estas “supervivencias” no son más que semejanzas que también se encuentran entre otros grupos mayenses, como los mayas de Yucatán, aunque, aseveró que hasta 1967 no existía otra religión en el área mayense donde el sistema religioso se encontrara tan al margen de la influencia cristiana como entre los lacandones.

La actual religión lacandona es el resultado de la reestructuración de un antiguo sistema religioso, con el fin de que éste resultara más acorde con las necesidades de su vida diaria. A esto se debe que casi todos los dioses del panteón lacandón tengan que ver con los fenómenos naturales que les tocan más de cerca o con los aspectos biológicos de su propia existencia

Ello se refleja en mitos de origen y deidades relacionados con el medio biótico que les rodea, la selva alta perennifolia. Aunque la cosmovisión lacandona actualmente se encuentra en un proceso de profunda reestructuración, dichos mitos y deidades siguen influyendo en el manejo que han dado y siguen dando a la selva.

Algunos ejemplos de ello son:

1. La flor de donde salieron los tres dioses principales, sus esposas, los dioses menores y sus servidores fue creada por el dios primigenio *K'akoch* y es la *tsaknikté*, *Plumeria alba*, planta presente en las zonas selváticas cercanas a la comunidad lacandona.
2. Los humanos fueron creados de arcilla y arena con granos de maíz, dejándose secar en las ramas del cedro (*Cedrella* sp.) denominado *ku ché* (“árbol de dios”).
3. Aunque *K'akoch* es el dios primigenio, *Hachäkyum* es el dios principal, pues fue quien creó a los hombres, la selva y los seres animados e inanimados que lo habitan.
4. *Hachäkyum* hizo los animales, los insectos y las culebras y le dio a cada uno su lugar donde vivir, aparte hizo animales domésticos para su gente.
5. *Säkäpuk* significa “Señor Jaguar Blanco” y es una deidad ayudante de *Hachäkyum*.
6. *Äh K'ak'* es el cazador valiente. En los mitos de este dios se ilustra la importancia de guardar ciertas restricciones para la cacería.
7. *Mensäbäk* es el dios que provoca la lluvia con cenizas de copal quemado esparcido en el aire por la cola de una guacamaya (*Amazona* sp.), formándose las nubes.

8. *Itsanohk'uh* es quien cuida el granizo, los lagartos y los lagos.
9. *U Hachil Hachäkyum* ("El consuegro de Nuestro Verdadero Señor") cuida del bosque y las víboras y su lugar no está en el cielo, su lugar es el bosque.
10. *Känänk'ax* ("Guardián del bosque") es quien principalmente cuida de las áreas boscosas y a quien se debe encomendar el cuidado personal al realizar actividades en zonas selváticas.
11. *Äk'inchob* es el encargado de preservar una semilla de cada planta y una pareja de cada ser cuando *Hachäkyum* destruye al mundo con un diluvio.

10. We Come From Trees: The Poetics Of Plants Among The Jotĩ Of The Venezuelan Guayana by Egleé L. Zent & Stanford Zent

This paper attempts to show the pervasiveness of plants in Jotĩ thought and behavior. The Jotĩ are a small ethnic group (~900 people) that inhabits the slopes and interfluvial valleys of the Sierra Maigualida in the Venezuelan Guayana. Similar to most Amazonian societies, plants are central for guaranteeing the reproduction of material and cultural existence in the day-to-day life of the Jotĩ. Different from other Amazonian people for whom plants seem to play minor roles compared to animals, such as Ese Eje (Alexiades 1999), Aguaruna (Brown 1985) and Yanomami (Miliken et al 1999), among the Jotĩ plants pervade their ideological and religious universe, taking on fundamental and polysemic dimensions. The prominence of plants in this context makes it difficult to establish a strict separation between subsistence and ideological significances, an issue to be explored here in three interrelated ways: (1) the contemporaneity of phyto-myths and phyto-cosmologies in daily lives; (2) the important role of plants in the fabrication of humanity and the reproduction of culture and (3) the potential relationship of the phyto-world to emergent theories about the symbolic economy of alterity. Plants permeate Jotĩ culture to such an extent that they have been active agents in the biological, cultural, and spiritual production and reproduction of this group. Plants among the Jotĩ therefore activate cultural poetics [poiesis create, fabricate, give birth] that articulate links of praxis and ideas as evinced in costumes, habits, cosmologies and mythologies.

11. Nanacaltepec: Montaña Sagrada De Los Hongos por Ángel Moreno Fuentes

El conocimiento y aprovechamiento de los hongos silvestres en la región mesoamericana parece ser uno de los más relevantes a nivel mundial. Existen evidencias pasadas y presentes que así lo confirman, principalmente en las categorías de comestibles y enteógenos. Estos últimos, fueron estudiados fundamentalmente en la segunda mitad del siglo XX, por Wasson. Una de las hipótesis derivadas de aquellas investigaciones, apuntaba hacia la posible existencia de una montaña sagrada, en la cual los antiguos sacerdotes, podrían haber llevado a cabo el "banquete fúngico", posibilidad basada en la interpretación de pictogramas procedentes del Lienzo de Zacatepec número 1 y del Códice Vindobonense. Investigaciones etnomicológicas recientes realizadas por los autores, revelan el hallazgo físico de tal montaña, cuyo nombre originario es nanacaltepec y en cuya cumbre se encuentran los restos arqueológicos de lo que parece haber sido una pirámide, en la cual se debió haber rendido culto a los hongos enteógenos y pudo haberse celebrado también, el "banquete" fúngico por parte de los antiguos sabios, como podrían estar sugiriendo los pictogramas representados en los códices señalados.

TEMA 4: PATRIMONIO BIOCULTURAL COLECTIVO Y CONSERVACIÓN

12. Tuberosas Nativas y sus Parientes Silvestres en la Zona Andina del Perú, Variabilidad Genética: Una experiencia de encuentro de Saberes por Dora Velázquez Milla, Juan Torres Guevara, Aldo Cruz Soriano

La zona andina peruana es uno de los centros de diversificación de cultivos más importantes para la seguridad alimentaria de la humanidad. Los Andes peruanos constituyen el 30% de la superficie total del Perú y en ellos se asientan culturas cuya tradición de conservación in situ de la agrobiodiversidad se remonta a más de cinco mil años.

Con base en la experiencia de la CCTA, se expone lo avanzado en el conocimiento de la variabilidad genética de las tuberosas nativas: “papa” (*Solanum spp*), “oca” (*Oxalis tuberosa*), “olluco” (*Ullucus tuberosus*) y “mashua” (*Tropaeolum tuberosum*), y la presencia de sus parientes silvestres conservados in situ por campesinos de los Andes peruanos, en dos etapas de estudio: del 2001-2005, en el marco del Proyecto In Situ, y del 2007-2009, en el marco de un proyecto en ejecución

El propósito de esta investigación es determinar la diversidad de especies y de las variedades dentro de las especies de tuberosas nativas cultivadas en chacras de campesinos tradicionales de la Sierra peruana. El estudio cubre un total de 10 microcuencas ubicadas en 4 regiones de la Sierra del Perú (Piura, Cajamarca, Huanuco y Huancavelica), en particular, en las partes altoandinas, entre los 3600 y los 4300 msnm.

Siendo los campesinos tradicionales los actores centrales de la conservación in situ, las actividades de investigación se han desarrollado bajo un enfoque intercultural, expresado en el establecimiento de un diálogo horizontal entre los portadores del conocimiento tradicional y del científico. El enfoque metodológico específico para la determinación de la diversidad genética de las tuberosas nativas se basa en la complementación de métodos propios de caracterización campesina y taxonomía botánica.

Por otro lado, se ha realizado el registro de los parientes silvestres y los hábitats identificados por los propios campesinos, incluyendo una determinación botánica de muestras colectadas y elaboración de mapas georreferenciados de cobertura y uso de la tierra.

Sobre la base de la caracterización campesina, para un período de seguimiento de cuatro campañas consecutivas (2001-2005), se logró la determinación de la riqueza genética de las tuberosas nativas estudiadas, siendo la papa la tuberosa con mayor registro de variantes nativas en todas las regiones. Asimismo, se determinó la variabilidad genética manejada por cada familia campesina, notándose claras diferencias entre uno y otro agricultor.

Con respecto a la caracterización botánica, en Cajamarca y Huanuco, se viene avanzando en la identificación preliminar de las especies a las que pertenecerían las distintas variantes de papa registradas, así como en la clasificación botánica de variantes de papa y oca seleccionadas por los campesinos.

En cuanto a los parientes silvestres, la “papa” es el cultivo con mayor número de registros, con 34 reportes. En el caso de las otras tuberosas, la “oca” alcanzó 18 registros, el “olluco” 4 y la “mashua” sólo 3. Finalmente, las formaciones naturales donde más parientes silvestres se han registrado son los matorrales, seguido de los pastizales y pajonales.

13. Clasificaciones Mbya-Guaraní sobre especies de Himenópteros. Usos y significación de la Miel en la Selva Paranaense, Provincia de Misiones, Argentina por Marilyn Cebolla Badie

En este trabajo indagué acerca del conocimiento de la población *Mbya*-guaraní contemporánea sobre las especies de himenópteros productoras de miel en la selva paranaense de la provincia de Misiones, Argentina.

Me interesó conocer el lugar que ocupa la miel en la medicina tradicional y en los rituales, como así también el rol de estas especies en la mitología de esta etnia. Realicé un relevamiento de las distintas denominaciones de abejas y avispa y su clasificación de acuerdo a la cultura *Mbya*.

A lo largo de la investigación encontré en reiteradas ocasiones coincidencias con clasificaciones y prácticas descritas por Darrel Posey en sus trabajos con los indígenas Kayapó del Amazonas.

La taxonomía *Mbya* para los himenópteros presenta gran coincidencia con la biología occidental pero, al mismo tiempo, existen también otros sistemas clasificatorios en el que estos insectos están agrupados según sus mitos de origen.

Los *Mbya* poseen un amplio conocimiento sobre la etología de las abejas nativas sin aguijón pertenecientes a la subfamilia *Meliponinae*, su interrelación con especies vegetales y sobre las características de sus mieles, muchas de las cuales son utilizadas con fines medicinales, como así también los demás productos de los panales.

Por otra parte, la presencia de *Apis mellifera*, la abeja europea introducida hace aproximadamente un siglo en Misiones y que se ha expandido invadiendo los nichos ecológicos de las otras especies de himenópteros, constituye para los *Mbya* el parámetro indicador de los cambios y el empobrecimiento de los ecosistemas.

En la cultura *Mbya* la recolección de la miel pertenece al dominio social masculino, junto con la caza y la pesca, en la que las mujeres sólo pueden acompañar o colaborar, ya que no les está permitido incursionar solas en la selva. Las mujeres son quienes siembran y cuidan los plantíos, tareas en las que ocasionalmente colaboran los hombres, pero las actividades relacionadas con las cosechas corresponden exclusivamente a las mujeres.

Asimismo, en la celebración del *Nemongarai*, la ceremonia ritual más importante de la cultura *Mbya*, o la que ha persistido con mayor fuerza, la miel, que constituye uno de los cuatro elementos fundamentales para la realización del ritual, pertenece al dominio masculino, reservándose el maíz, producto de las cosechas, para la participación femenina.

Hasta tiempos recientes la miel de *Apis mellifera* no se utilizaba en las ceremonias religiosas por considerarse no autóctona y porque se cree que esta abeja no fue creada por las divinidades sino por los blancos, pero en la actualidad, ante la escasez de miel de las abejas nativas se recurre a esta miel exótica cuando ya no quedan opciones.

En esta pesquisa he pretendido también demostrar la profundidad del conocimiento indígena sobre el medio ambiente de selva paranaense con el que la etnia ha interactuado durante siglos. En este trabajo me referiré a conocimientos y prácticas rituales relacionadas con especies de abejas nativas y la producción de miel, que probablemente se encuentran en trance de desaparición como consecuencia de la deforestación, la extinción de la fauna y la pérdida de los territorios tradicionales.

14. Traditional Plant Use in Northern Peru and Southern Ecuador – Tracking two thousand years of Healing Culture por Rainer, Bussmann

Northern Peru represents the centre of the old Central Andean “Health Axis.” The roots of traditional healing practices in this region go as far back as the Moche period (AC 100-800). Currently over 500 plants with medicinal uses are sold in local markets, while less than half of that number is found in adjacent Ecuador. The composition of the local pharmacopoeia in both regions has changed drastically since colonial times. However, the overall number of medicinal plants employed seems to have increased. This indicates that the Northern Peruvian health tradition is still going strong, and that the healers and public are constantly experimenting with new remedies. The knowledge of medicinal plants is still taught orally, with no written record. However, Traditional Medicine is experiencing increasing demand, especially from a Peruvian perspective as indicated by the fact that the number of herb vendors has increased in recent years. A wide variety of medicinal plants from Northern Peru can be found in the global market. This poses a serious threat, as signs of over-harvesting of important species are becoming increasingly apparent. Today the most serious threat to this millennial tradition is the destruction of medicinal plant habitats. Urban sprawl has already greatly altered the coastal plains around Trujillo and Chiclayo. Climatic change is threatening the mountain forest systems that are the source of many medicinal species. Most importantly, the high Andean ecosystems where many medicinally active species are found is in danger of being destroyed by large-scale mining activities.

TEMA 5: APROXIMACIONES PARA EL ENTENDIMIENTO DE LOS ESPACIOS BIOCULTURALES

15. Las plantas y los colores en la vida de las Yungas Argentinas por Lambaré, A, Hilgert, N, y Fabbio F.A.

El aprovechamiento de los Melipónidos (abejas nativas sin aguijón) está ampliamente difundido en los trópicos y subtrópicos de todo el mundo; su estudio alcanza cierto desarrollo entre pueblos nativos de África y de América. En Argentina, el Bosque Atlántico es el bioma que alberga la mayor diversidad de estos organismos; a su vez en esta región aún existen comunidades pertenecientes a la cultura Mby’a-Guarani. Para este pueblo, la percepción del espacio físico se fundamenta en su cosmovisión, en la cual el hombre se reconoce como parte del bosque. De ese modo el ambiente posee un profundo significado simbólico que excede lo utilitario. Es decir, representa una fuente de recursos económicos y, además, un sustrato de su vida material, espiritual y religiosa. Sin embargo, en la actualidad se registran grandes cambios tanto en lo ambiental como en lo cultural. En relación al uso y manejo de las abejas nativas por este pueblo, hay estudios puntuales que sugieren que las prácticas y saberes asociadas a los mismos, persisten a pesar del deterioro ambiental. No obstante, no se han registrado estudios integrales (hombre-ambiente) que analicen de que forma el empobrecimiento cultural y ambiental repercuten en esta actividad, así como, en los conocimientos asociados a la misma. En el presente se exponen los avances sobre el modo de percibir, buscar, criar (cuando se registra la tarea) y cosechar las abejas silvestres. Se está trabajando en dos comunidades del norte de la provincia de Misiones, las que presentan situaciones ambientales y culturales distintas. Ambas son vecinas de áreas protegidas: 1) Una aldea periurbana, ubicada en la periferia del PN Iguazú (de 67.000 ha) y con una fuerte influencia de la cultura mayoritaria; y 2) Una aldea rural junto a la reserva privada Yacutinga (de 570 ha),

con menos vínculos con la cultura hegemónica. Hasta el momento se halló que el conocimiento relacionado a este recurso se distribuye entre los hombres adultos y hay concordancia en la nomenclatura empleada, en los usos asignados y en las técnicas de cosecha. Finalmente, se analiza la influencia de la proximidad de un centro urbanizado y de las restricciones en el uso de las áreas protegidas. Se espera generar la información necesaria que permita reformular las políticas de conservación, con el objeto de proteger de modo holístico a las culturas y los ambientes.

16. The UK Allotment and its role in the Maintenance of Agrodiversity por Simon, Platten

Despite the recent renewal of interest in the homegarden as a means of production in the UK, there has been little empirical research on the impact of homegardening on the household economy, on patterns of exchange of germplasm and knowledge, and the consequent implications for agroecological diversity. This research responds to several gaps in our knowledge of British homegardening practice. Here we look at 'allotments', a special kind of homegarden which has its own distinct place in the social history of the UK. Allotment plots are rented from the local government authority or private landlords. Each plot is approx 300m², with between 50-200 plots on a site. The provision of allotments is protected by legislation, which describes their primary use as a means of supplementary food production for the household, as opposed to market sale. Plotholders themselves emphasise the sense of community associated with allotments sites. Social relationships between plotholders are created and maintained through the exchange of planting material, produce and associated knowledge. Horticultural skill, experimentation and generosity contribute to social status within the plotholder community. This combined focus upon economic production and social capital foster conditions in which diversity of plant material is both valued and encouraged. Allotments in the UK are therefore important sites for insitu conservation of agrodiversity.

17. El Solar May: Espacios de Práctica social por Diana, Lope

El presente trabajo analiza a los huertos caseros o 'solares' de los Mayas-Yucatecos como un espacio productivo a través del cual se fortalece la práctica social tradicional. El estudio se desarrolla en una comunidad rural del Estado de Yucatán, México, donde 27 de 31 familias derivan de un ancestro común. Complementándose con otros datos, se analizaron 700 transacciones de intercambio de productos originados dentro de la unidad familiar que tomaron lugar en un periodo aproximado de tres meses y entre todos los miembros de la comunidad. Los resultados demuestran que el solar maya, seguido por la cocina, es el espacio donde se genera la mayor parte de los artículos que son intercambiados en la cotidianeidad, siendo así las mujeres, las principales agentes para el fortalecimiento de las redes sociales. Los objetos que se obsequian consisten en su mayoría de plantas para sembrar y trasplantar que provienen de fuera de la comunidad, así como frutos que se cosechan en abundancia y comida preparada. Se identificó una relación entre la capacidad de dar y recibir objetos en forma de regalo hacia un mayor número de personas y el estatus del que el individuo goza como una persona respetada e influyentes. Dichos individuos son a su vez, descendientes directos de los primeros pobladores de la comunidad. De acuerdo a estos resultados, este artículo argumenta que a través de los solares, la práctica social local se reproduce a la vez que la biodiversidad local es enriquecida.

18. La Cosmovision Raramuri por Juan Daniel Villalobos

La cultura Raramuri (*pies ligeros*) viven en la sierra de Chihuahua en el norte de México. Conservan muchas de sus costumbres antiguas en un territorio de barrancos y sierra. Dependen de una economía agrícola, básicamente de maíz y un poco de pastoreo de chivas. Últimamente presenta retos muy fuertes que amenazan su continuidad: el cambio climático, con resultado de pocas cosechas y disminución de su rebaño; el narcotráfico como alternativa fácil pero que parte sus valores comunitarios; la emigración fuera de su zona para buscar trabajo creando consecuencias de cambios en la cultura de necesidades a otras cosas y perdida de las propias, etc.

En los últimos 20 años hemos estado apoyando en la protección de la tierra, con trincheras, cuidado y uso del agua, apoyo al maíz nativo en las diferentes regiones y variedades. También hemos apoyado alternativas de trabajo como huertos de árboles frutales (por ejemplo, manzanas y durazno) y hortaliza partiendo de sus propias semillas como mostaza silvestre, quelites, calabaza, frijoles, chiles, etc., así como siembra de otras verduras como tomate, espinacas, y repollo. Otra alternativa para complementar su economía es la comercialización de canastos de pino y sotol, y apoyo para que la planta del sotol se reproduzca y no se agote.

Aunque ayudan mucho los proyectos a los Raramuri, todos los trabajos tienen que partir de la comunidad y de sus mecanismos culturales. Si no incluyen su cosmovision, los proyectos no tienen raíz, no tienen futuro.

El Rarámuri, hijo de Onorúame, desde que se nace, se inicia un camino hacia El. El dios es padre y madre y representa en el sol y la luna. El camino Raramuri es vivir comunitariamente, no solos. Toda la naturaleza del mundo tiene una forma de ser espiritual, las rocas y las plantas, el maíz y la tierra, la siembra, y el ganado tiene su fin espiritual. El agua en los arroyos, la tierra, el sol y la luna, todo esta vivo.

La vida de la comunidad depende en la celebración de la fiesta; sin maíz no podemos hacer Yumari. Si no hacemos las celebraciones el Raramuri se acabará y el mundo también. Fue necesario “pedirle permiso” al agua del manantial que usamos para las casas y regar las hortalizas con un ritual que hace el curandero de la comunidad. Si no lo hacemos es muy probable que el pozo se seque. Así como es el agua es todo; tiene que tener un contexto de la comunidad y su cosmovisión. La celebración es la realización de la utopía Raramuri donde se vive la armonía entre Dios y sus hijos, y los hombres y su mundo. Implica el perdón y dar gracias, donde se comparte lo que tenemos y somos. La fiesta, reunión de la comunidad con comida y bebida en abundancia, es muy importante al éxito de cualquier proyecto o ayuda por ser parte del cosmovision mismo tanto como reconocimiento de su cultura.

19. Trading names: Trader knowledge and cultural classification systems, in Andean Medicinal Plant Markets by Peter Wilkin

To explain cultural classification of plants used in healing, it is important to understand the context of medicinal plant markets and the knowledge held by traders. Studies of so-called ‘traditional’ or ‘local’ knowledge have focused on defining knowledge and the pathways for its acquisition or transmission, often isolating empirical knowledge from its local cultural context. Medicinal plant studies cite market places as sources of medicinal plant knowledge, yet little is known about the market vendors and traders’ knowledge or classificatory systems. Studies of medicinal plant markets have looked at the movement

and types of plants in quantitative terms, or the specific knowledge of plant sellers, but few have considered the actual knowledge or classification system used by the traders. The central Andean region is well known for the diversity of both environments and cultures. The city of Oruro, on the Bolivian Andean plateau, forms the crossroads for trade routes that incorporate and distribute the regions diverse flora. This flora forms the dynamic inventory of the market stalls pharmacopoeia. Unlike harvester communities or 'specialist' healers, market traders' knowledge of plants are focused around their role as traders and as members of the community formed by the market place itself. Plant classification systems used by market traders in Oruro provides a case study of traders' knowledge. Different geographical and cultural regions use different vernacular names and sub classifications for plant species based on localised cultural criteria and plant morphology. Once in the central market place, these classifications were often contradictory and plants did not travel with all their cultural 'packaging' or the context of localised classification systems. Traders used their own classification system based on plants and plants parts where efficaciousness was a key element. Keywords: Knowledge, Markets, Traders, Traditional, and Medicinal.

TEMA 6 – PARTE I: SISTEMAS DE SUSTENTO AFRICANO, SUS MODOS DE COGNICIÓN ETNOBIOLÓGICO Y CONTRIBUCIÓN A NUTRICIÓN, SALUD, Y SUSTANABILIDAD ECOLÓGICA

Panel Conjunto entre la Universidad de Kyoto y Bioversidad Internatio
Moderador: Pablo Eyzaguirre (Bioversity International)

1. Cognition, Utilization and Weediness of Plants: Person-plant relationships in Acholi Area, Southern Sudan by SHIGETA, Masayoshi

Person-plant relationships are tentatively categorized into four aspects. These are (1) person's cognition of plants, (2) person's utilization of plants, (3) plants' cognition of person and (4) plants' utilization of person, respectively. The first aspect has been mainly dealt with in the study of folk taxonomy and the second in the classical ethnobotany and economic botany. Last two viewpoints of anti-anthropo-centric nature may be difficult to understand for human being. Cultivated plants, however, can be a good example to explain. For instance, non-dehiscent wheat should recognize as well as utilize person as a sole agent of seed dispersal, and such recognition is directly concerned with the reproductive success of wheat. Mutually beneficial relationships which can be found typically between agriculturist and cultivated plants, is called person-plant symbiotic relationships, and domestication is defined as their diachronic process. In this paper, person-plant relationships in Acholi area are described in terms of the first and second viewpoints. Hypothesis that the recognition of person by plants is most distinctively characterized by the weediness and/or colonizing ability of plants. This hypothesis may be indirectly evidenced by the recognition and utilization of plants by person. Five folk categories of vegetation are recognized among the Acholi. Of the five, only the luul (forest) is referred as a habitat of some vernacular species. In contrast with luul, two other folk categories, paaco and potho are mentioned to categorize folk plant species. Paaco literally means "person's place-" and potho is a noun form of the verb pita (cultivate). The specimens of 320 folk vernacular species are identified. With each specimen, usage and habitat are inquired. The analysis of data revealed that; (1) relatively large number of plants from paaco are recognized. (2) Plants from paaco are used as food more commonly

than those from other habitat. (3) Plants from luul are frequently utilized for material culture. And, (4) most of plants from potho are used for foods. In a total of eighty-seven Linnaean species that can be regarded as weedy or with high weediness in botanical description of the flora, seventy-five species are recognized as plants from paaco, but no plants of stable habitat as from paaco. Therefore, it is concluded that weeds which respond well to the person's disturbance of the habitat are likely to be recognized and utilized among the Acholi people.³ Social Dynamics Ensuring Rice Diversity and Food Security among the Mandinka People in the middle Gambia River basin by KATAYAMA, Yumiko

2. The Agricultural Potential of the Enset-Based Livelihood System in the Highlands of Southwestern Ethiopia by MIYATA, Hiroaki

Enset [*Ensete ventricosum* (Welw.) E.E. Cheesman] is a large, banana-like, and herbaceous plant belongs to *Musaceae* (banana family). Its cultivation is restricted in the highland of southwestern Ethiopia at elevations ranging from 1,000 to 3,000 meters, while wild population distributes extensively over eastern and central part of sub-Saharan Africa. Enset provides carbohydrate-rich foods from its pseudostem and corm. Especially, the bulk of fermented starch obtained from the mixture of the decorticated leafsheaths and grated corm is an important source of energy for local people. Enset is also used for many other purposes including material artifacts, forage for livestock, and medicine.

Enset plants are densely planted in homegardens which are close to the house and the part of living space. Enset needs more than five years to reach the edible growth stage. This geographic proximity and prolonged sympatry may establish the close relationships between man and enset. People recognize enset plants one by one and they are much familiar with the variety, position, and life history of each enset plant in their homegardens. They also manage enset plants individually rather than collectively and the integral of individual practice to an individual enset plant achieve the condition that many enset plants constantly exist in homegarden in whole. The resultant abundance of enset plants provide a variety of amenity starting with food of good quality.

The high population density of enset plants in homegardens results in the high output potential of food, or energy source. For example, based on the interview about all the enset plants existing in one of the studied homegardens, of 781 individuals 153 individuals reached the stage able for extracting the starch. And the total output potential on the basis of the biomass of each 153 individual is estimated at about four year of energy source for this household. Taking account of some other factors such as the frequency of consumption, growth rate of enset plants, and modes of cultivation, one can conclude this existing potential is constant and excessive reserve. This excessive reserve is the result of the people's daily maintenance of the enset homegardens crowded with many vigorous enset plants rather than that of purposely-designed practice of dense planting intended to increase land productivity. People have positive appreciation of this result and they feel spiritual ease to it. The sense of ease can get to be part of people's motives for maintaining enset homegardens in turn.

The homegardens with plenty of large enset plants is also socially recognized as good and ideal one. This aesthetic sense of value might have been formed by the people's feelings of "richness" they can actually enjoy from this kind of homegardens. Paradoxocally, some people plant many enset plants to get social status of owning ideal homegarden.

Materially and spiritually rich livelihood systems are co-created by man and enset in their collective, close and mutual relations. It can be said that people cultivate enset plants not

only directly for getting food or other material but also for maintaining this richness through filling living space with many enset plants.

3. Sustainable Mode of Slash-and-burn Cultivation: The Invention of an Agroforestry System Utilizing Black Wattle (*Acacia mearnsii*) by the Bena People in Tanzania by KONDO, Fumi

This study focuses on a unique mode of slash-and-burn cultivation utilizing artificial forest of black wattle (*Acacia mearnsii*), which is formed on grass-covered hills in the Southern Highlands of Tanzania. Black wattle, originated in Australia, was introduced into this area for the purpose of tannin extraction in the mid-20th century. This fast-growing tree came to be grown by the native Bena people as a fuel wood or as a marker plant of the private land. With the penetration of market economy since 1980s, they have invented an agroforestry system, which forestry technologies integrated into their indigenous slash-and-burn cultivation system, in order to benefit from the increasing economic value of black wattle.

The new system enables repeatable use of artificial forest of black wattle. The regeneration of forest is resumed just after clearing due to seed generation accelerated by fire. The skillful forest management enables to intercrop finger millet or maize between well-ordered trees for three years and to get fuel woods and charcoals ten years latter when the forest is cleared again. Charcoal and local beer brewed from finger millet provides the Bena cash income. The enormous biomass produced by Black wattle, that fix nitrogen, can enrich the soil fertility and be available to save the use of expensive fertilizers.

This innovation by the Bena had been created through various attempts based on their experiences and knowledge which have been accumulated in the process to cope with socio-economic changes under globalization. The case study can provide some notable suggestions to consider an endogenous development in rural areas facing on serious environmental degradation and shortage of arable lands.

4. Folk classification, perception and preferences of baobab products in West Africa: consequence for the species conservation and management by Assogbadjo Achille Ephrem

The present study reports an ethnobotanical survey among local people of Benin, Burkina Faso, Ghana and Senegal. The study aims to (i) Understand local perceptions of baobab tree variation; (ii) Identify local peoples' preferences (both desirable and undesirable) of baobab traits (iii) Assess correlations between various traits according to local people. In each country, structured interviews have been conducted on a total of 129 women and 281 men of different ages that were randomly drawn from nine ethnic groups. Interviews included questions on perceptions and human/cultural meaning of morphological variation, use forms, preferences (desirables/undesirable traits) and links between traits.

Local people in the four countries used 21 criteria to differentiate baobab individuals in traditional agroforestry systems. These criteria are related to the characteristics of leaves, fruits, bark and the whole tree. The preferences of local people were for baobab trees having delicious leaves, sweet or slightly acid pulp, non slimy pulp, yellowish pulp, capsules producing high yield of pulp, bark easy to harvest, and which are considered as

female are the desirable ones in rural areas of West Africa. In rural areas, local people are also aware of the linkages between different traits of baobab. In Benin and Senegal, especially among the oldest Ditamari and Wolof, local people have a wide knowledge about links between baobab traits. According to them, the easier the bark harvesting, the tastier the pulp and leaves; the slimier the pulp, the less tasty it is; the softer the seed coat, the higher the probability of the resulting baobab to be a male. Moreover, Ditamari people from Benin have outstanding knowledge to link specific baobab traits: hairy leaves are invariably tasteless, male baobabs give tasteless leaves, long shaped fruits of intermediate size invariably yield a sweet pulp. In contrast, local people from Ghana and Burkina Faso do not appear to possess knowledge of links between baobab traits. Within *A. digitata*, farmers are able to guide researchers in collecting germplasm from trees with preferred combinations of traits. This can allow selecting of candidate plus trees for propagation, and planning a domestication programme based on the indigenous knowledge.

5. Plants, Soil and Experiences: Folk Categories Integrated with the Agricultural Knowledge among the Sandawe of Central Tanzania by YATSUKA, Harina

The Sandawe people in central Tanzania live under diverse environment: Acacia woodland, miombo woodland, and Itigi thicket. Although the Sandawe people are suggested that they had been bush foragers until recently, there are no descriptions about them before the middle of 19th century when they had already engaged in cultivation considerably introduced by their neighboring agricultural people. From this background, I have conducted a field research on the Sandawe people's livelihood in multiple environments, and their cognition and utilization of environment since 2003 with the objective of elucidating how their cultivation affect their culture and society. The results are as follows: (1) There are unique folk category about their environment including plants, soil, and topography, comprehensively. (2) There is a word which means cultivation field in the Sandawe language "*minda*", however, *minda* also is categorized among the folk category of environment. (3) Their folk category is really bind with not only visual experiences such as plants species, soil color, and topography, but also practical experiences of cultivation such as soil condition after burning and growth of crops. (4) They have conducted slash-and-burn cultivation for pearl millet, sorghum, and maize as their staple foods depending only on rainwater. (5) Among those crops, pearl millet is regarded as indigenous for them and preferred because of the taste, various way of cooking, drought resistant by them. And, (6) they choose crops that they plant according to cultivation fields based on their own folk category. In this presentation, I will examine their folk category binding with cultivation with reference to their historical background.

6. The Modes in Recognition of Banana Plants among the Baganda, Central Uganda by SATO, Yasuaki

The Sandawe people in central Tanzania live under diverse environment: Acacia woodland, miombo woodland, and Itigi thicket. Although the Sandawe people are suggested that they had been bush foragers until recently, there are no descriptions about them before the middle of 19th century when they had already engaged in cultivation considerably introduced by their neighboring agricultural people. From this background, I have conducted a field research on the Sandawe people's livelihood in multiple

environments, and their cognition and utilization of environment since 2003 with the objective of elucidating how their cultivation affect their culture and society. The results are as follows: (1) There are unique folk category about their environment including plants, soil, and topography, comprehensively. (2) There is a word which means cultivation field in the Sandawe language "*minda*", however, *minda* also is categorized among the folk category of environment. (3) Their folk category is really bind with not only visual experiences such as plants species, soil color, and topography, but also practical experiences of cultivation such as soil condition after burning and growth of crops. (4) They have conducted slash-and-burn cultivation for pearl millet, sorghum, and maize as their staple foods depending only on rainwater. (5) Among those crops, pearl millet is regarded as indigenous for them and preferred because of the taste, various way of cooking, drought resistant by them. And, (6) they choose crops that they plant according to cultivation fields based on their own folk category. In this presentation, I will examine their folk category binding with cultivation with reference to their historical background.

7. Indigenous fruit trees of the Giriama people of Kenya: - potential to improve local livelihoods and conserve multipurpose biodiversity by Yasuyuki MORIMOTO, Patrick MAUNDU, Joseph FONDO, Bosco KAHINDI, Takashi FUKUSHIMA, Demetrius KWEKA

Rural Giriama people in Kenya periodically rely on a wide variety of Indigenous Fruit Trees (IFTs) to supplement their diet and to generate cash income essential for purchasing household goods and meeting other domestic needs. However, due to the relatively less economic value compared to exotic fruits such as mangos, most of IFTs are considered poor man's foods and so their market value is small. Rural Giriama people are experiencing a rapid change in their traditions including food preferences. This has caused an erosion of local knowledge and this is likely to result in loss of IFT diversity. The traditional value such as multipurpose utilities including nutritional and medicinal value of IFTs have been given little attention. In five sites namely, Kilifi, Bamba and Vitengeni in Kilifi District, Kakoneni and Gongoni in Malindi District, in the coastal region of Kenya, a total of 125 IFTs from 42 genera and 35 families were identified, of which 71 species (56%) were entirely wild and collected from the forest and/or bush, 34 species (28%) were entirely domesticated and 11 species (9%) were occasionally found in cultivation and sometimes in the wild. In the later two cases, people often managed IFTs naturally or planted them in agroforestry systems. Among the fruits, only 17 species including coconut and mango were marketed in major towns such as Kilifi, Malindi and Mombasa city, 40 species (32%) were sold in local markets and 69 species (55%) were only for local consumption. Apart from being used as fruits, 115 species (92%) of these local fruit trees had other uses as well. Such uses include medicinal and health uses, pesticides, tools, building, wood carving, fibers, dye, bee forage, live fence, firewood, flavoring foods, and ceremonial and spiritual uses. To assess peoples' preference on IFTs, a conjoint analysis was applied on 200 informants who comprised farmers and town dwellers at the same sites above. The survey revealed that the people prefer IFTs that have multiple utilities in general. In all variables assessed, "fuel wood and timber" were mostly preferred (26.3%), while "food and nutrition value" (20.1%), "easy accessibility and availability" (18.3%), "income and marketability" (17.7%) and "medicinal including spiritual value" (17.6%) followed respectively. Site-related differences in knowledge and preferences for species were also identified. For instance, high preferences were observed for "food and nutrition value" and "medicinal including spiritual value" in poorer and remote sections of the

population, and for “fuel wood and timber” in people near Kilifi and Malindi towns. The town people ranked “income and marketability” as low preference. Age/gender difference was observed but was not significant in the area surveyed. During the same interview, a list of the eight locally prioritised IFT species was established. The result suggests that unless a major effort is made to promote food use, traditional fruit trees will continue to decline in importance and might be lost through unsustainable use such as firewood or timber. Research is therefore needed to add value of the IFTs and to improve access by improving value chains as well as creating awareness of their nutritional benefits especially among urban dwellers.

8. Agrobiodiversity, dietary diversity and nutrition status: Exploring possible linkages among rural farming communities by Patrick M. MAUNDU, Yasuyuki MORIMOTO, Yoshiaki NISHIKAWA, Daigo MAKIHARA, and Timothy JOHNS

Rural communities in Africa traditionally grow and also gather a huge diversity of local foods for their nutritional, socio-economic and cultural needs. These diverse foods are produced within complex farming systems associated with unique skills and rich local knowledge. These highly nutritious and culturally important foods are however being replaced by fewer, more uniform commercialised foods or varieties. According to FAO (1996), the largely unintended consequence of the introduction of new varieties of crops has been the replacement and loss of traditional, highly variable farmer varieties. As traditional farming systems and local knowledge get eroded and simplified, genetic resources too get eroded thus affecting the variety of food accessible to the family. This also leads to increased dependence on few improved varieties but which require high inputs and which are often less adaptable and less nutritious. This not only puts extra financial burden on farmers but also exposes them to nutritional inadequacy and food insecurity. About 34% of the population in Sub-Saharan Africa was undernourished in 1997-99 (FAO, 2002) while vitamin A deficiency affected an estimated 42 percent of the population in the region (United Nations University, Food and Nutrition Bulletin, 28:1, 2007 and 26:4, 2005).

It has long been believed that increasing access to diverse foods at the household level (e.g. at the farm) translates to diverse diets. Diverse diets in turn are believed to translate to better nutrition and health status of the family. Logically, consumption of higher diversity should lead to better health as the probability of ingesting essential elements from the diet should increase with the number of food types consumed. This should be the case whether considering diversity within specific food groups e.g. cereals or among food groups e.g. cereals and legumes. Diversity should be important for the more limiting nutritional elements such as vitamin A, iron, zinc, essential fatty acids, essential amino acids and other rare health constituents which vary significantly within and across food groups. One should gain more complete nutrients they diversify food groups or taxa. The probability of acquiring sufficient amounts of these nutrients should also increase as one diversifies the states in which the foods are consumed (e.g. raw, cooked, fermented, etc). Basing its argument on available data, this paper discusses the premise that using the highly diverse locally available traditional foods among farmers in Kitui District, Kenya, is advantageous from a nutritional, economical and ecological stand point as in most cases the foods are more nutritious, culturally acceptable and require fewer inputs than highly commercialized food or varieties. The paper also discusses the role of diverse diets in achieving a healthy status but also cites the intricate determinants of health.

9. Promotion of underutilized African leafy vegetables: Is knowledge of use and potential health benefits key determining factors for successful promotion? By Maryam IMBUMI and Patrick MAUNDU

In 1996, Bioversity International (then IPGRI) and its partner institutions in Sub-Saharan Africa (SSA) put the first concerted effort to promote research in African leafy vegetables (ALVs) in sub-Saharan Africa. Initial work focused on identification of the species, prioritizing them and documenting local knowledge on use in selected countries of Western, Eastern and Southern Africa. Kenya alone recorded 210 local species used and prioritized 24. From 2001, the programme went into a second phase, where it worked with farmers and research institutions to collect and improve germplasm and to re-distribute it. In East Africa, attitude was identified as a hindrance to consumption. In 2004 more attention was turned to promoting use. The efforts have borne fruit particularly in Kenya where levels of production, commercialization and consumption of these vegetables have noticeably short up in recent years, with the market gross value in Nairobi increasing by some 213% between the period 2001 and 2006 (Irungu *et al*, 2007).

A basic requirement in vegetable promotion is that the final product at the table has to be palatable and acceptable— a product of many factors including vegetable's intrinsic taste, the ingredients used and one's acquired taste. The latter is influenced a lot by ones cultural background and contacts with other food cultures. A study in Nairobi, among 800 households confirmed that the pattern of buying traditional vegetables was greatly influenced by ethnicity (Kimiywe, et al, 2005). The importance of taste and appearance was further confirmed by the results of a tasting panel involving participants from 10 countries of Sub-Saharan Africa attending a vegetable meeting held at Nairobi in December 2005. The panel ranked vegetables prepared with familiar ingredients such as 'coconut milk', cream, yoghurt and chili cubes high. Strongly bitter vegetables (e.g *Solanum* spp.) and mucilaginous ones (e.g *Corchorus* sp.) were ranked low when cooked on their own but high when mixed with other vegetables that toned down their effect.

This paper identifies two important preconditions that led to the successful promotion of African leafy vegetables in Kenya - familiarity with specific vegetables as well as knowledge about potential health benefits. The paper concludes that improved acceptance and consumption are influenced strongly by one's background and knowledge about the value especially health benefits.

10. Between Famine Food and Local Food: Indigenous Management and Utilization of Edible Aroids in Southern Ethiopia by Takeshi FUJIMOTO

A larges number of wild plant species bearing starchy roots have been utilized as part of local diet in many places of the world. While some are eaten raw or slightly cooked, others need to be carefully processed by detoxification or counteraction techniques because the latter contain toxic content which can even cause human death.

In Ethiopia, both north and south, more than ten ethnic groups utilize wild starchy roots from various plant species belonging to *Arisaema*, *Sauromatum*, *Amorphophallus*, and *Arum* genera (Araceae) and to *Tacca* genus (Taccaceae), all of which contain irritating if not fatal substances in the underground part. Most of them are now occasionally and narrowly utilized as famine food, but some are preferred to crops in taste and sold at local markets. There are variations about which plant species the ethnic groups utilize, how they remove toxic substances, how they manage the plant resources, and how they value cooked dishes from them. In this study, two ethnic groups are examined.

The Malo are a small mountain society with two stratified farmer groups. The lower ranked Doko eat the tubers of *Arisaema schimperianum* and *Sauromatum venosum*, both called *siitse*. During the hungry season from May to June, Doko women, by using a digging stick, dig out the plants growing anywhere without taking care for later growing plants. They peel the skin, wash and grate the tubers, and exude toxic substances by leaving the pulp wrapped by *enset* leaves and weighed upon by stones in the backyard for two days. Then they grate the pulp repeatedly and cook it into pancake, gruel, steamed dish or make it into local beer and distilled alcohol. However, the practice of eating *siitse* is despised by the superior Gok'a and maintained secretly in the society.

In the Gamo highlands, the same species called *k'olts'o* are used with some differences. In August when men till fields to sow the second barley by using hoe, women collect the tubers of a large size and immediately cut them into two parts. Men carefully rebury the upper part into the soil while tilling the fields. Farmers distinguish named varieties in *k'olts'o*, which suggest that the plants are more or less domesticated. Farmers are not allowed to collect *k'olts'o* from others' fields. After women wash and grate the tubers, they remove toxic substances by leaving the pulp put in a funnel-shaped bamboo basket and weighted upon by stones for two days. Then they preserve the pulp by leaving it fermented in a wooden barrel for a longer period. Finally, they cook it into pancake, steamed dish and gruel. They cherish the dishes from *k'olts'o*, knowing that they are unique in that point.

While similar techniques of detoxification are applied to the same species by both groups, there are notable differences between them. Resource management by reburying cut tubers and long-term preservation through fermentation are found only among the Gamo who appreciate the dishes from the plants. A close association is perceived between local management, utilization and evaluation.

CLOSING PRESENTATIONS/PRESENTACIONES DE CLAUSURA

Aids Orphans As Farmers: Uncovering pest knowledge differences through an ethnobiological approach in Benin. A Pre- Intervention Assessment by Rose C. Fagbemissi and Lisa Leimar Price

The erosion of local/indigenous farming knowledge in the face of HIV-AIDS deaths in Africa has been noted as a point of concern in the literature and by organizations such as FAO. These concerns are for a break in the transmission of knowledge from adults (deceased parents) to children (who become orphans). Ultimately an erosion of farming knowledge is implied.

This paper examines one aspect of knowledge using an ethnobiological approach that is language based. Free-listing elicitations of pests in maize fields were conducted with 45 child orphans, 15 non-orphan children, and 30 adults in rural Benin. A cognitive salience index (CSI) was developed and an advanced analysis of the CSI scores was conducted examining the score differences between child orphans and non-orphan children and adults. The results indicate that orphaned children are more knowledgeable than non-orphaned children given their ability to name maize pests. Further, orphaned children are closer to adult farmers in their ability. Other variables including gender and age are further examined to explain some of the observed variation.

The findings indicate that there is a need for rethinking the implications of HIV/AIDS on farming knowledge as the adults themselves may already have non-adaptive agricultural knowledge to address problems such as crop yield losses.

The implication for intervention is that orphans have ability to absorb knowledge providing they follow well- skilled adult farmers as role model.

La Vicuña Silvestre desde la mirada de los niños y adolescentes en el Altiplano Jujeno por Wawrzyk, Ana Celeste and Vilá, Bibiana.

Las problemáticas relativas a la conservación y manejo de la biodiversidad andina y aquellas referidas al desarrollo de los pueblos originarios, son esencialmente interdisciplinarias. El debate central es como articular simultáneamente dos objetivos que suelen plantearse como contradictorios: la conservación de la biodiversidad y el desarrollo de las comunidades locales.

La vicuña (*Vicugna vicugna*) es un animal emblemático con un alto valor en el ecosistema y en la cosmovisión andina dado que posee una de las fibras animales más finas del mundo por lo que históricamente ha sido un recurso de gran importancia para el poblador local. El estudio de la percepción social sobre la vicuña en niños del altiplano, resulta interesante dado que la especie ha transitado distintos estadios de conservación a lo largo de la historia, pasando de tener riesgo de extinción en la década del '60 a recuperarse y permitir un uso en la actualidad. En algunas comunidades, comienza a ser percibida como un "problema" lo que demuestra que a medida que las poblaciones de vicuñas se han ido incrementando, la percepción y valoración hacia la especie por parte del poblador andino ha ido modificándose.

En este trabajo se presentan algunos de los resultados obtenidos a partir del trabajo realizado en cuatro localidades del altiplano de la provincia de Jujuy, Argentina: Santa Catalina, Rinconada, Abra Pampa y Cieneguillas. Las áreas de estudio han sido seleccionadas teniendo en cuenta la densidad de vicuñas en el área y la experiencia de manejo de vicuñas silvestres de las comunidades. Se realizaron 348 encuestas a niños y adolescentes de entre 9 y 18 años que asistían a la escuela pública estatal de las localidades bajo estudio.

Entre los resultados obtenidos se puede observar que el 91% de los niños encuestados opinaron que las vicuñas son animales de gran utilidad fundamentalmente por su valiosa fibra (83,53%), su atractivo turístico (40,88%) y su carne (22,93%). Este resultado es constante independientemente del lugar de residencia de los niños ($X^2 = 1.0382$, $df = 3$, $p = 0.792$), del género de los encuestados ($X^2 = 0.5142$, $df = 1$, $p = 0.6682$), de la presencia de las vicuñas en la localidad ($X^2 = 0.4255$, $df = 1$, $p = 0.1723$) y de la participación o no de los encuestados en las capturas y esquilas de vicuñas silvestre ($X^2 = 0.4255$, $df = 1$, $p = 0.5142$).

Además de haber sido considerada como un recurso también fue percibida por el 64,99% de los encuestados como una especie problemática. Es de resaltar, que en aquellas localidades donde la densidad de vicuñas es mayor, la percepción negativa sobre la especie se incrementa (competencia por pasturas, enfermedades, roturas de alambrados y peleas con perros). Es notable esta dualidad de reconocer el alto valor de la especie, de identificar problemas asociados a la presencia de la misma pero a su vez concluir que las vicuñas son positivas para el altiplano en un 74% de las respuestas.