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¿Biopiratería o desarrollo sustentable?

De acuerdo con la información proporcionada por la Rural Advancement Foundation International (RAFI), fundación mundialmente reconocida por su lucha en contra de las semillas transgénicas, Chiapas es sede de un proyecto de bioprospección en el que está involucrado el Gobierno de Estados Unidos, a través del International Cooperative Biodiversity Group (ICBG). "El ICBG es un consorcio de agencias federales que incluye a los Institutos Nacionales de Salud, la Fundación Nacional de Ciencia y el Ministerio de Agricultura de Estados Unidos (USDA). Otorga donaciones a instituciones de investigación públicas y comerciales que realizan programas de bioprospección/biopiratería, en países del Sur."¹

De conformidad con la información proporcionada por RAFI, el ICBG opera desde 1993 apoyando investigaciones sobre bioprospección en diferentes lugares del mundo. Hasta ahora, se conocen sus actividades en 12 países, preferentemente en áreas tropicales aunque trabajan también zonas áridas y semiáridas. Todos los países involucrados se ubican en el llamado Tercer Mundo y marcadamente en regiones pertenecientes al cinturón terrestre. En total los financiamientos ascienden a 18.5 millones de dólares, y han auspiciado investigaciones en siete países de América Latina (México, Perú, Chile, Suriname, Argentina, Panamá y Costa Rica), tres africanos (Madagascar, Nigeria y Camerún) y dos asiáticos (Vietnam y Laos).

Entre los beneficiarios de estas investigaciones no parecen estar ni las poblaciones locales ni los países que las albergan, sino algunas de las mayores transnacionales de la farmacéutica mundial y de la ingeniería genética entre las que destacan Glaxo-Wellcome, Bristol Myers Squibb, Shaman Pharmaceuticals, Dow Elanco Agrosiences, Wyeth-Ayerst, American Cyanamid y Monsanto, varias de ellas denunciadas por grupos indígenas de la Amazonia o por organizaciones internacionales como RAFI, sea por biopiratería, sea por difusión de transgénicos como Terminator, con todas las repercusiones económicas, sociales, biológicas y culturales que esto tiene.

No deja de participar, entre los beneficiarios, Conservación Internacional. Esta ONG, que ha recibido parte de los donativos de ICBG y que ha sido muy mencionada por sus actividades en la región de Marqués de Comillas en Chiapas, trabaja en asociación con las empresas mencionadas y por su propia iniciativa.

El proyecto ICBG-Maya tendrá una duración total de cinco años, y se encuentra actualmente en el segundo. La dirección "...está a cargo de la Universidad de Georgia, en cooperación con el Colegio de la Frontera Sur (ECOSUR) de México y la empresa biotecnológica Molecular Nature Limited, con base en Gales, Reino Unido."²

El financiamiento otorgado por el Gobierno de Estados Unidos asciende a 2,5 millones de dólares que amparan, entre otras cosas, la construcción de un banco genético único en el mundo asentado en la Universidad de Georgia. Los usos de las especies recolectadas son evidentemente múltiples y sus potencialidades van desde la identificación de nuevas drogas y la búsqueda de aplicaciones industriales de los individuos recolectados, hasta la identificación de sus códigos genéticos y el estudio de los modos naturales de solución de problemas en su secuencia vital.

"Utilizando el conocimiento indígena como guía de su investigación, el proyecto ICBG en Chiapas se

propone descubrir, aislar y evaluar farmacológicamente componentes importantes de especies vegetales y microorganismos usados en la medicina maya tradicional. Los Altos de Chiapas son depositarios de una de las zonas más ricas en biodiversidad animal y vegetal del planeta. A través de los siglos, los mayas han desarrollado un conocimiento médico amplio y complejo. Se estima que existen más de 6000 especies vegetales en el área y miles de ellas son usadas tradicionalmente por los mayas para tratar enfermedades. Todas las muestras promisorias serán analizadas para comprobar si pueden ser efectivas en enfermedades como cáncer, dolencias asociadas al VIH/SIDA, desórdenes del sistema nervioso central, enfermedades cardiovasculares, gastrointestinales, respiratorias/pulmonares, cutáneas y como anticonceptivos. El proyecto también se propone realizar un extenso relevamiento botánico de los Altos de Chiapas y según sus propias declaraciones- promover la producción y cosecha sustentable de especies seleccionadas que muestren potencial considerable para el desarrollo económico. El proyecto estima que podría identificar unos 2000 componentes únicos que serán perfilados químicamente por la Molecular Nature Limited, el socio comercial del proyecto, basado en en el Reino Unido. Un duplicado de todas las muestras colectadas serán depositadas en el herbario de la Universidad de Georgia-Athens."³

El proyecto en cuestión, que en español se llama Investigación farmacéutica y uso sustentable del conocimiento etnobotánico y biodiversidad en la región Maya de los Altos de Chiapas, tiene como propósito declarado "...la promoción del descubrimiento de fármacos derivados de recursos naturales, la conservación de la biodiversidad y el crecimiento económico sostenido de los países en vías de desarrollo."⁴ Sin embargo, no cuenta con la aprobación de las poblaciones afectadas porque, finalmente, "estas empresas pretenden sintetizar y modificar los componentes biológicos activos que se derivan de los recursos y el conocimiento de las comunidades indígenas, ya que sus objetivos son el patentamiento, la privatización y el lucro de la biodiversidad", según denuncia de Hope Shand, Directora de Investigación de RAFI. Esta denuncia resulta de un análisis del protocolo de propiedad intelectual sobre los productos farmacéuticos que puedan derivar de la investigación, contenido en el proyecto ICBG-Maya.

Para poder iniciar la investigación atendiendo a las normas establecidas en el Convenio de Diversidad Biológica -y particularmente su artículo 8j- y el Convenio 169 sobre Derechos Indígenas de la Organización Internacional de Trabajo, fue necesario establecer un convenio con la participación de las comunidades afectadas. En él se contempla la creación de una ONG, llamada PROMAYA, AC (Protección de los Derechos de Propiedad Intelectual de los Mayas Asociación Civil), en la que participan ECOSUR, la Universidad de Georgia y la Molecular Nature Limited, que es quien actúa como contraparte de la sociedad civil, manteniendo la consulta con ella.

A más de un año de iniciado el proyecto, las comunidades afirman que el convenio no ha sido discutido con ellas. Según declaraciones de la Organización de Médicos Indígenas del Estado de Chiapas (OMIECH), ECOSUR los invitó a participar "...en este convenio de bioprospección, pensando que con la promesa de un llamado reparto de beneficios futuro, los médicos indígenas aceptarían este proyecto. En las reuniones en que participamos planteamos nuestra desconformidad con los objetivos y métodos del proyecto, y se nos aseguró que el proyecto no sería iniciado, como mínimo, hasta que no se cumpliera con todos los requisitos de la legislación mexicana. Sin embargo, ya se están sacando muestras en varias comunidades de Chiapas, y en junio de este año se nos presentó un Convenio ya firmado por las tres partes. Esto muestra el espíritu con que se mueven y las nulas intenciones de consultar ampliamente, respetando las culturas tradicionales y a las verdaderas autoridades de las comunidades. Básicamente, crean su propio interlocutor e invitan a participar allí a los que acepten su forma de trabajo y no cuestionen nada..."⁵

Investigaciones y convenios como éste deberían ser motivo de una amplia discusión en la sociedad mexicana ya que además de afectar social y culturalmente a las poblaciones asentadas en los

territorios delimitados para el estudio, implican una definición en los hechos del uso que se da a la riqueza biológica de México. Sin una legislación adecuada y sin un acuerdo colectivo acerca de la concepción y uso de la biodiversidad no debería haberse permitido un proyecto de consecuencias tan amplias. A decir de Hope Shand, "el proyecto ICGB-Maya tiene un protocolo claramente definido de propiedad intelectual sobre cualquier producto farmacéutico que pueda resultar de la investigación realizada en Chiapas. Opera sobre el principio -al menos en papel- de que las muestras biológicas pertenecen a México y que una parte no revelada de las regalías volverán a los mayas de los Altos de Chiapas vía PROMAYA. La realidad es que estos beneficios de largo plazo pueden no materializarse nunca, y que muchas organizaciones locales indígenas rechazan tanto la propiedad intelectual en sí misma, como el proceso establecido para la eventual distribución de beneficios a través de PROMAYA. El punto crítico ahora es que el proyecto se está realizando no solamente sin una consulta correcta a las comunidades afectadas, sino además contra la voluntad expresa de un sector significativo de esas comunidades."⁶

Actualmente hay once organizaciones indígenas de Chiapas exigiendo la suspensión del proyecto. Agrupadas en el Consejo Estatal de Parteras y Médicos Indígenas Tradicionales de Chiapas, señalan que se trata de un saqueo de recursos y conocimientos: "Nosotros, como médicos tradicionales organizados llevamos quince años trabajando para rescatar y mejorar nuestra medicina de la costumbre y no queremos que ahora nos vengan a engañar, pues lo que están haciendo con nuestras plantas es un negocio que les va a dejar a ellos millones y millones de pesos y a nosotros igual de jodidos. Recurrimos a las autoridades nacionales y estatales para que se suspenda este proyecto. Ahora recurrimos a todos los compañeros indígenas para que no acepten que los investigadores de ECOSUR puedan sacar información y plantas medicinales de nuestras comunidades."⁷

Sebastián Luna, indígena tzeltal vocero del Consejo, explica: "...el proyecto explícitamente propone patentar y privatizar recursos y conocimientos que han sido siempre colectivos. Esto, además de contradecir nuestras culturas y tradiciones, es una forma de crear conflictos dentro de las comunidades, ya que algunos individuos, llevados por las necesidades económicas que pasamos los indígenas, se pueden prestar a colaborar con este proyecto, a cambio de unos pocos pesos o algunas herramientas. Esto ya lo hemos visto en las comunidades de Oxchuc, Chenalhó, Simojovel, Cancuc, Huixtan y Las Margaritas, donde ya se están sacando muestras."

No obstante, pese a las protestas de organizaciones indígenas locales, la Universidad de Georgia (Estados Unidos) ha declarado que no suspenderá el proyecto.⁸

¹

RAFI, <http://www.rafi.org/rafi@rafi.org>. Salvo indicación en contrario las citas provienen de este sitio.

²

El director del proyecto es el antropólogo Brent Berlin, miembro de la Sociedad Internacional de Etnobiología (ISE) y a quien las comunidades le atribuyen largos años de saqueo en territorios de Chiapas. Ver las denuncias del Consejo Estatal de Parteras y Médicos Indígenas Tradicionales de Chiapas reproducidas en: <http://www.rafi.org/rafi@rafi.org>.

3
Subrayados nuestros.

4
<http://www.nih.gov/fic/opportunities/icbg.html>.

5
Declaraciones de Rafael Alarcón, asesor del Consejo, citadas por RAFI, ídem.

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Las organizaciones indígenas agrupadas en el Consejo Estatal de Parteras y Médicos Tradicionales señalan que el proyecto está violando el 'Principio de Consentimiento Previo Informado y Veto' del Código de Etica de la ISE que indica: "Se debe obtener el consentimiento previo informado de todos los pueblos y sus comunidades antes de que se realice cualquier investigación. Los pueblos indígenas, las comunidades locales y las sociedades tradicionales tienen el derecho a veto sobre cualquier programa, proyecto o estudio que los afecte. La obtención del consentimiento previo informado presupone que se entrega a todas las comunidades potencialmente afectadas la información completa sobre la naturaleza y el propósito de las actividades de investigación y sus probables resultados, incluyendo todos los beneficios razonablemente previsibles y los riesgos de daños (tangibles o intangibles) para las comunidades afectadas". Este Código puede ser consultado en: <http://guallart.dac.uga.edu/ethics>.

7
Consejo Estatal de Parteras y Médicos Indígenas Tradicionales de Chiapas. Consejo Estatal de Parteras y Médicos Indígenas Tradicionales de Chiapas.

8
RAFI contactó a Brent Berlin en la Universidad de Georgia y le preguntó si las demandas de las organizaciones indígenas de Chiapas constituían una base para suspender el programa de bioprospección en Chiapas. Berlin, uno de los autores del Código de Etica de la ISE, rechazó la idea. "Estoy convencido de que el tema no hubiera sido ni planteado si esos grupos estuvieran plenamente informados sobre el Proyecto."

How the Maya ICBG Implements the International Society of Ethnobiology Code of Ethics

Tomado de: <http://guallart.dac.uga.edu/ethics>

1. Principle of Prior Rights

This principle recognizes that indigenous peoples, traditional societies, and local communities have prior, proprietary rights and interests over all air, land, and waterways, and the natural resources within them that these peoples have traditionally inhabited or used, together with all knowledge and intellectual property and traditional resource rights associated with such resources and their use.

The Maya ICBG respects fully the rights of the Highland Maya of Chiapas to their knowledge of medicinal plants and the plants themselves. This is why permission from Maya communities is always sought before any plants are collected, either for scientific or for biotechnological purposes. Separate permissions for biotechnology collections is part of our research protocol as required by the ISE code of ethics and by Mexican law (87BIS, *Ley del Equilibrio Ambiente...*).

2. Principle of self-determination

This principle recognizes that indigenous peoples, traditional societies and local communities have a right to self determination (or local determination for traditional and local communities) and that researchers and associated organizations will acknowledge and respect such rights in their dealings with these peoples and their communities.

Chiapas is currently embroiled in human and civil rights issues that predispose potential participants to question closely the nature and effects of any proposed projects in their communities. Individuals and/or communities who do not wish to participate in the Maya ICBG will not be pressured to do so. We applaud this assertion of self determination and we work continually to guarantee and promote such rights. Person and groups opting not to cooperate with ICBG projects are eligible for benefits sharing through PROMAYA.

The Maya ICBG also acknowledges that the Highland Maya is comprised of many diverse group of individuals often with conflicting views on many issues affecting their lives (e.g., the continuing Zapatista rebellion and the divisions that divide Catholics and Protestants). All Maya communities within the study area will be given the opportunity to participate in our project, even if some segments of the indigenous population are not supportive of it.

3. Principle of Inalienability

This principle recognizes that the inalienable rights of indigenous peoples, traditional societies and local communities in relation to their traditional territories and the natural resources within them and associated traditional knowledge. These rights are collective by nature but can include individual rights. It shall be for indigenous peoples, traditional societies and local communities to determine for themselves the nature and scope of their respective resource rights regimes.

The Maya ICBG respects the inalienable rights of the Maya to their medical knowledge and medicinal plant resources.

Our medical ethnobiological research focuses on "community-based" knowledge and medicinal species that are commonly known to most adult Maya in the Highlands. This knowledge contrasts with secret medicinal knowledge held by traditional healers (*j'iloletik* or *jpoxtawanejetik*), which is often cosmological or magical in nature. This is one of the reasons that we are currently seeking permission and cooperation from individual Maya communities, rather than government sponsored institutions or NGO traditional healer organizations that may claim, incorrectly, to represent the Highland Maya people as a whole. In any event, all permission for research on this topic must be granted by the *individual communities within each Highland Maya municipality*, as individuals in these communities are the legally recognized owners of the lands from which medicinal plants will be collected.

4. Principle of Traditional Guardianship

This principle recognizes the holistic interconnectedness of humanity with the ecosystems of our Sacred Earth and the obligation and responsibility of indigenous peoples, traditional societies and local communities to preserve and maintain their role as traditional guardians of these ecosystems through the maintenance of their cultures, mythologies, spiritual beliefs and customary practices.

The Maya ICBG has been invited by the Chiapas Department of Education to develop one-month workshops on medicinal plants. These workshops promote the maintenance of traditional medical knowledge among younger Maya.

Increased population growth, deforestation, and reduced fallow times are threatening the natural habitats of Maya medicinal plants. For this reason the Maya is carrying out research on the enhancement of the pharmacological properties of certain medicinal plant species that might be candidates for cultivation to meet local health needs. Other ICBG projects focus on the use of medicinal plants as biocontrol agents in traditional agriculture, especially in control of a number of insect pests affecting maize and cabbage production in particular.

5. Principle of Active Participation

This principle recognizes the crucial importance of indigenous peoples, traditional societies and local communities to actively participate in all phases of the project from inception to completion, as well as in application of research results.

A team of full-time Maya collaborators have received technical training under the Maya ICBG. They are part of our regular research staff and are responsible for the ethnomedical and ethnobotanical fieldwork, as well as some of the laboratory and herbarium curation work. Our Maya team members have also been involved in creating the questionnaires that are used in ethnomedical/botanical fieldwork and in producing a series of videos in Tzetal, Tzotzil and Tojolabal that explain the Maya ICBG.

In addition to our team of Maya research assistants, large number of local Mayas participate, often as daily collaborators, in the project. All individuals are financially compensated for their participation in the project. More than 12 percent of the project's year 02 budget will be expended in salaries and honoraria to Maya of the Highlands of Chiapas as monetary compensation for their collaboration. The Maya ICBG strongly adheres to the notion that financial compensation for work provided. Individuals who claim that native peoples should provide services on a voluntary basis are practicing exploitation in the full sense of the word.

6. Principle of Full Disclosure

This principle recognizes that indigenous peoples, traditional societies and local communities are entitled to be fully informed about the nature, scope and ultimate purpose of the proposed research (including methodology, data collection, and the dissemination and application of results). This information is to be given in a manner that takes into consideration and actively engages with the body of knowledge and cultural preferences of these peoples and communities.

As part of our efforts to guarantee prior and informed consent, we are developing a series of videos and written materials in local Maya languages that provide an explanation of the project in a culturally appropriate manner. Early screenings of the videos indicate that they are highly successful in delivering a clear description of what the Maya ICBG plans to accomplish and of initiating discussions related to intellectual property matters. These materials are presented as part of the ICBG's effort to inform local communities of the nature of our work.

In October, 1999 an open-house and informational workshop on the Maya ICBG was held at ECOSUR. This day long workshop addressed all facets of the MAYA ICBG, was open to the public, and attended by almost 200 Maya individuals.

7. Principle of Prior Informed Consent and Veto

This principle recognizes that the prior informed consent of all peoples and their communities must be obtained before any research is undertaken. Indigenous peoples, traditional societies and local communities have the right to veto any programme, project, or study that affects them. Providing prior informed consent presumes that all potentially affected communities will be provided complete information regarding the purpose and nature of the research activities and the probable results, including all reasonably foreseeable benefits and risks of harm (be they tangible or intangible) to the affected communities.

The Maya ICBG has received prior informed consent from several Maya communities to begin botanical collecting plants as part of our biodiversity inventory of the flora of the Chiapas highlands. We have also received prior informed consent from individuals interviewed about Maya ethnomedical formulas.

The process for obtaining prior informed consent is developed in accordance with the guidelines set forth by the US Department of Health and the University of Georgia's committee on use of human subjects.

Currently, the Maya ICBG is working to obtain permits from the Mexican government's National Institute of Ecology to collect plants for biotechnology purposes. Mexican law requires that we

obtain permission from local land owners and is stated as follows: *Artículo 87 BIS.-El aprovechamiento de especies de flora y fauna silvestre, así como de otros recursos biológicos con fines de utilización en la biotecnología requiere autorización de la Secretaría [de Medio Ambiente, Recursos Naturales y Pesca, específicamente, el Instituto Nacional de Ecología]. La autorización a que se refiere este Artículo sólo podrá otorgarse si se cuenta con el consentimiento previo, expreso, e informado, del propietario o legítimo poseedor del predio en el que el recurso biológico se encuentre. Asimismo, dichos propietarios o legítimos poseedores tendrán derecho a una repartición equitativa de los beneficios que se deriven o puedan derivarse de los aprovechamientos a que se refiere este Artículo, con arreglo a las disposiciones jurídicas aplicables*(Ley General del Equilibrio Ecológico, p. 136).

The granting of permits from the National Institute of Ecology depends on demonstrating that we have adequately satisfied Article 87 BIS of the Ley General del Equilibrio Ecológico. Plant collecting for bioassay purposes cannot begin until this article has been satisfied, i.e., prior informed consent from *each individual* Maya community in the study area. No plant material will be collected on lands controlled by communities that choose not to participate in the project. However, all communities will be given the option to decide for themselves whether to accept or veto any activity of the Maya ICBG. This decision cannot be made by interested governmental or non-governmental institutions in the area.

8. Principle of Confidentiality

This principle recognizes that indigenous peoples, traditional societies and local communities, at their sole discretion, have the right to exclude from publication and/or to have kept confidential any information concerning their culture, traditions, mythologies or spiritual beliefs. Furthermore, such confidentiality shall be guaranteed by researchers and other potential users. Indigenous and traditional peoples also have the right to privacy and anonymity.

Previous work by investigators in the Maya ICBG has resulted in published research on Maya medicinal plants and ethnomedicine in the local Maya languages (literature citations available upon request). Results of the Maya ICBG will also be published in these languages so the Maya can both use this information. No confidential information will be published.

9. Principle of Respect

This principle recognizes the necessity for western researchers to respect the integrity, morality and spirituality of the culture, traditions and relationships of indigenous peoples, traditional societies and local communities with their natural worlds, and to avoid the imposition of external conceptions and standards.

The Maya ICBG was first conceived because previous research in the area has shown Highland Maya herbal medicine to represent an ethnoscientific system of herbal knowledge based on astute and accurate observation and experimentation with the effects of plant-based remedies on bodily function and disease processes. Respect for the rich ethnomedical and ethnobotanical knowledge possessed by the Maya continues to guide the Maya ICBG. The project is committed to building cultural pride through the documentation of Maya ethnoscience and dissemination of results in the national and local languages to the fullest extent possible.

Maya collaborators involved in this project function as collaborators and research colleagues, building on a tradition based on more than 35 years of ethnoscientific study in the region. Training in linguistic transcription of their own languages, field botanical survey techniques, computer literacy, laboratory techniques, plant propagation, marketing, and intellectual property rights issues have been regularly provided as part of our capacity building initiatives. More importantly, the Maya involved in this project are encouraged to use their native languages and maintain their traditional beliefs and customs. The Maya ICBG is an opportunity for them to become contributors in the local, regional and national economy without giving up their Mayan identities.

10. Principle of Active Protection

This principle recognizes the importance of researchers taking active measures to protect and enhance the relationship of indigenous peoples, traditional societies and local communities with their environment and thereby promote the maintenance of cultural and biological diversity.

One of the aims of the Maya ICBG is to design sustainable production systems and develop capacity for sustainable management and use of biological resources. Maya ethnoecological knowledge will be used to measure the significance of particular botanical species. Analysis of

these data will be invaluable in developing ethnobotanically and ethnoecologically significant programs relating to conservation of threatened plant communities.

Promotion of the maintenance and use of traditional knowledge of medicinal plants has been significantly advanced by the Maya ICBG's collaboration with four Highland Maya communities who have sought our consultation in the development of ethnobotanical gardens. The creation of such gardens also insures that Maya medicinal plants will be available to the local population, while reducing the threat of overharvesting, as well as providing a mechanism where instruction on plant names and uses can be carried out easily with Maya children. (Copies of agreements between Maya communities and the Maya ICBG as regards mutual obligations in developing and maintaining these gardens are available on request).

The Maya ICBG is currently exploring the potential benefits of common Maya medicinal plants as biological resources for pest control in local Maya horticultural systems. Studies are underway to determine to what extent these plant species might substitute for commercial pesticides that are currently being used extensively in Highland Maya agriculture.

The Maya ICBG is also sponsoring innovative research on the tissue culture propagation of bromeliads and medicinal plants. These experiments have the dual goal of replenishing forest resources of these plants and of supplying plants for canopy farming and commercial marketing. These experiments are currently being carried out on the bromeliad *Tillandsia eizii*, a native species to the Highlands of Chiapas and of great ceremonial value to local Tzeltal and Tzotzil-speaking communities.

11. Principle of Precaution

This principle acknowledges the complexity of interactions between cultural and biological communities, and thus the inherent uncertainty of effects due to ethnobiological and other research. The Precautionary Principle advocates taking proactive, anticipatory action to identify and to prevent biological or cultural harms resulting from research activities or outcomes, even if cause-and-effect relationships have not yet been scientifically proven. The prediction and assessment of such biological and cultural harms must include local criteria and indicators, thus must fully involve indigenous peoples, traditional societies and local communities.

The sustainable development projects currently underway involve community participation in planning and implementation. Distribution of funds through PROMAYA will support projects designed and submitted by members of the Maya communities of the study, whether or not they have participated in the Maya ICBG.

12. Principle of Compensation and Equitable Sharing

This principle recognizes that indigenous peoples, traditional societies and local communities must be fairly and adequately compensated for their contribution to ethnobiological research activities and outcomes involving their knowledge.

The Maya ICBG realizes that financial rewards from any commercial products that are developed as a result of its research will not be distributed among the Maya for many years (due to the long periods of drug development and marketing). Immediate, short-term and medium-term benefits relating to health, conservation and sustainable use of biological resources and alternative forms of economic growth are a reflection of the Maya ICBG's goals of just compensation.

Immediate benefits of the ICBG to participating Maya include community ethnobotanical gardens and salaries/wages (roughly 12% of the ICBG budget) paid to collaborators and informants. In addition, previous research on Highland Maya medicinal plants has been translated into the local languages and is available for anyone who is interested.

It is anticipated that research on natural pesticides and bromeliad propagation will produce results that will directly benefit the Maya in a relatively short period of time.

Another short-term benefit involves the creation of PROMAYA (Promotion of Intellectual Property Rights of the Highland Maya of Chiapas, Mexico) a non-profit organization that will hold in trust and administer the Maya communities' portion of any financial returns resulting from the Maya ICBG. PROMAYA will be made up of a general assembly of Maya representatives and a board of directors. The trust fund will be used in such a way as to ensure wide and equitable distribution of financial benefits, directed at the entire region of the Chiapas Highlands including those communities that choose not to cooperate in the research. After PROMAYA has been established, the group leader of the Maya ICBG will make the first deposit into the association's trust fund by donating a US\$30,000 award that he recently received for his

work on cognitive and linguistic anthropology, much of it based on research in the Highland Maya region of Chiapas.

Medium-term benefits to the Maya will include the return of practical information on the bioactivity of medicinal plant species significant to local health needs to the collaborating Maya populations. Even if such species exhibit molecular structures that are well-known and would not be candidates for patentable pharmaceuticals they may be developed and promoted by the Maya as "phytomedicines."

If any patentable pharmaceuticals do arise from the efforts of the Maya ICBG, all profits will be shared *equally* between El Colegio de la Frontera Sur (EOSUR-the host institution), the University of Georgia, Molecular Nature Limited and PROMAYA.

13. Principle of Supporting Indigenous Research

This principle recognizes, supports and prioritizes the efforts of indigenous peoples, traditional societies and local communities in undertaking their own research and publications utilising their own collections and data bases.

Enhancing the technical skills and capabilities of our Maya collaborators is an important goal of the Maya ICBG. This will not only contribute significantly to capacity building among Maya populations of the region, but will provide the Maya with the expertise needed to undertake their own research.

Ethnobotanical, ethnomedical and ethnoecological data will all be collected in the local Maya languages. The resulting databases will also be created and maintained by our Maya collaborators in the local Maya languages. This will insure that the Maya have access to data generated by the Maya ICBG and can carry out their own research as desired.

14. Principle of The Dynamic Interactive Cycle

This principle holds that research activities should not be initiated unless there is reasonable assurance that all stages of the project can be completed from (a) preparation and evaluation, to (b) full implementation, to (c) evaluation, dissemination and return of results to the communities, to (d) training and education as an integral part of the project, including practical application of results. Thus, all projects must be seen as *cycles of continuous and on-going dialog*.

The Maya ICBG is led by investigators who have over 20 years of research experience in the Highlands of Chiapas. These investigators have set a precedent and a mechanism to return the results of their research to the Maya. As described above, training and education is also an integral part of the Maya ICBG.

15. Principle of Restitution

This principle recognizes that every effort will be made to avoid any adverse consequences to indigenous peoples, traditional societies and local communities from research activities and outcomes and that, should any such adverse consequence occur, appropriate restitution shall be made.

While no proactive program or organization can foresee all of the consequence of their activities, there always exists the potential for unanticipated negative consequences of this research. The members of the Maya ICBG will work uncompromisingly to reverse any negative changes documented to have occurred as a direct result of this project.