

**Intellectual Property, Resources or Territory? Reframing the Debate over  
Indigenous Rights, Traditional Knowledge, and Pharmaceutical  
Bioprospection<sup>1</sup>**

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The last two decades have witnessed a notable concentration of biotechnology in highly industrialized nations as well as the economic ramifications of its possible commercial applications in industrial agriculture, food products, pharmaceuticals, genetic engineering, among others. Within this expanding field, bioprospection - the search for potential scientific-commercial utility in the world's biological resources - has become the subject of an increasingly polemical and global debate, especially in connection with the signing of the Convention on Biological Diversity in 1992. The Convention, ratified by over one hundred and fifty participant states of the United Nations, considers the future conservation and sustainable use of biological diversity (or biodiversity) as tied to each state's sovereign control over access to biological resources found in their national territories. Further, article 8j of the Convention suggests that bioprospection efforts resulting in successful commercial ventures - and when based on traditional uses of biological resources - should entail protection for and benefit sharing with the indigenous or other local populations whose traditional knowledge contributes to new, biologically-engineered products. In response to international bioprospection activities and the goals of the Convention indigenous peoples have become increasingly active in making rights claims for novel forms of legal protection of traditional knowledge commonly associated with the use of biodiversity. Due to its reflection in the Convention and other international law arenas (for example the UN Draft Declaration on the Rights of Indigenous

Peoples), the concern over legal recognition of traditional knowledge has become involved in a wider debate about cultural, social and human rights more generally. Nevertheless, the positions on how best to protect and/or compensate traditional knowledge in relation to potential commercialization vary widely among the various actors involved in the debate. Many propose to treat traditional knowledge as a form of legally recognized intellectual property, collectively owned by indigenous or other local groups, requiring compensation when such knowledge is used in commercial enterprises. Others argue that the widespread promotion of intellectual property rights is little more than an imposition of market logic on what are in many cases, at least partially, non-market oriented societies.<sup>2</sup>

A significant portion of this broader debate focuses on indigenous groups' traditional knowledge of medicinal plants and its potential use as a guide in the search for new pharmaceuticals. The possibility of future drugs based on traditional plant remedies is in large part rooted in the fact that past examples exist: aspirin, antibiotics, and quinine only a few of the more common. The past examples often serve as justifications for the present political mobilization over indigenous/local people's rights to protection of, and compensation for, traditional plant knowledge used in pharmaceutical research activities. However, it is not at all clear that the future of pharmaceuticals will depend on bioprospection activities, nor the input of traditional knowledge.<sup>3</sup> In fact, since the mid twentieth

century, due to a noteworthy turn to synthetic products and drug engineering programs, remarkably few private sector pharmaceutical companies have been involved in bioprospection activities and virtually no drug products based on biological leads or traditional knowledge have emerged since as a result.<sup>4</sup> Several have noted a renewal of interest in biological diversity and traditional knowledge as potential sources of future drugs during the 1990s. However, this trend seems to be fading fast in part due to the increasingly politicized atmosphere surrounding the Convention on Biological Diversity which companies find restrictive to their capital interests.<sup>5</sup> In the case of pharmaceutical companies, prospecting into biological resources is but one among many economic strategies, and not necessarily the preferred one, used to develop new drug products, capture markets and sustain profits. Thus, the drug industry does not find itself in the same relation of dependency on natural resources that, for example, the oil industry does which must continually bargain with state governments and the Organization of Petroleum Exporting Countries on the conditions of access to heavily demanded petroleum reserves, as of yet without synthetically engineered product competition.

In the midst of this emergent global political mobilization over access to foreign biodiversity and indigenous people's traditional knowledge a public granting program under the name of International Cooperative Biodiversity Group (hereafter ICBG) was born. One particular ICBG grant was implemented with the

Aguaruna, a sizeable indigenous Amazonian group (approximate population: 45,000) occupying Peru's mountainous forest region, and a group that is also at the forefront of Amazonian indigenous political organizing. The vast majority of an approximately 240 small Aguaruna communities are affiliated (with varying degrees of loyalty) to locally-based Aguaruna-run organizations, of which there are at least eleven distinct ones known to the author. In most cases, the local organizations also claim affiliation to pan-indigenous organizations based in Lima, the Peruvian capital, which advocate indigenous Amazonian rights at the national and international level. Due to the Aguaruna's history as one of the more politically motivated of Peru's indigenous Amazonian groups the ICBG-Aguaruna project demonstrates with clarity the contradictions in the debate over rights to intellectual property in traditional knowledge associated with pharmaceutical bioprospection. It also offers an opportunity to think through alternatives to considering traditional knowledge as indigenous people's intellectual property, an issue brought to the world's attention by international treaties like the Convention on Biological Diversity.

#### Negotiating the ICBG with the Aguaruna of Peru

The ICBG is a public grants program administrated by National Institutes of Health and emerged from collaboration with the National Science Foundation, and the United States Agency for International Development in 1992. The three

stated ICBG goals, clearly oriented to the aims of the Convention on Biological Diversity, are to (1) search for potential drug discoveries through bioprospection while simultaneously promoting this activity as (2) a sustainable use of biodiversity and (3) a mechanism to foster development through benefit-sharing with developing countries and in some cases the specific indigenous/local peoples involved.<sup>6</sup> The third goal, which includes recognition of traditional knowledge as the potential collective intellectual property of specific indigenous or local groups, represents one of the more novel aspects of the ICBG. Typically, the structure of the ICBG research is viewed as a collaborative relationship between US and developing country research institutions, in a few cases specific indigenous/local communities, and commercial partners. Securing the participation of private sector pharmaceutical companies is essentially mandated by the ICBG grant protocols and was an obstacle for several of the ICBG researchers due to the reticence of drug companies to dedicate time and expenses to research involving bioprospection.<sup>7</sup> It remains clear that despite private sector research partners the ICBG program is above all an initiative of a public sector that demonstrates more concern for the goals mentioned.

In 1993 a team from Washington University, headed by Walter Lewis, a career ethnobotanist, was awarded an ICBG grant to collect medicinal plants used by the Aguaruna in the Peruvian tropical forest. The research was to be carried out in collaboration with host country institutions: the Universidad Peruana

Cayetano Heredia (hereafter U. Cayetano) and the Museo de Historia Natural de la Universidad San Marcos (hereafter Museum), both in Lima. Washington University, U. Cayetano, the Museum and a fourth category termed "Aguaruna peoples" constituted the ICBG research partners. Additionally, Washington U. secured private sector participation from Searle & Co. (the former pharmaceutical division of Monsanto Corporation, sold to UpJohn and Pharmacia Corporation in 2000) who agreed to run tests on the medicinal plant samples to be collected. Searle also agreed to provide collection payments to the Aguaruna as well as distribute future royalty payments between all four ICBG partners should the samples lead to a final commercial product.

The ICBG team's initial Aguaruna contact was the Organización Central de Comunidades Aguarunas del Alto Marañón (Central Organization of Aguaruna Communities of the Upper Marañón, hereafter OCCAAM), a small Aguaruna organization on the river Marañón that was accepting of the project. However, National Institutes of Health officials administering the ICBG grant recommended that the researchers negotiate with the Consejo Aguaruna Huambisa (hereafter Aguaruna Huambisa Council), a more widely known and influential regional organization that claims as its base a much larger number of Aguaruna and Huambisa (a related ethnic group) communities than those under the organization OCCAAM. In April of 1994 the ICBG researchers signed a letter of intent to carry out the project with the Aguaruna Huambisa Council, in which short and

long-term benefits were offered to the indigenous-run organization: specifically an annual up front payment for the four year collection period and potential future royalties to be shared between the four ICBG partners should Searle develop a product based on the research. Having secured the letter of intent with the Aguaruna Huambisa Council, Washington U. returned to the US and signed an agreement with Searle formalizing the terms of the company's participation with the ICBG. Due to no direct contact between Searle and any of the Peruvian partners, Washington U. essentially became the legal intermediary between the US pharmaceutical interest and all the Peruvian partners: U. Cayetano, the Museum and the Aguaruna Huambisa Council. Diagram 1 visualizes the structure of the initial agreements and is intended as a reference for the abbreviations used in the text.

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INSERT DIAGRAM 1

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During 1994, having heard of a separate agreement signed between Washington U. and Searle, the Aguaruna Huambisa Council began to stall the ICBG research and demand more information about the content of the separate agreement, specifically in regard to the royalty terms. As then president of the Aguaruna Huambisa Council reasons: "They [the ICBG team] were not very clear. The earnings [i.e. the future royalty scheme], logically, are established

between Monsanto and University of Washington. And we were not included in that agreement, thus, our claim [to share in the earnings] is in vain.”<sup>8</sup>

During the period of reluctance to finalize the ICBG agreement, the Aguaruna Huambisa Council decided to consult with several external NGOs who quickly intervened with harsh criticism of the ICBG researchers and Searle, bringing the benefit-sharing and traditional knowledge issue to national and international attention. Rural Advancement Foundation International (RAFI) in the US obtained a copy of the agreement between Washington U. and Searle and published the royalty terms on their website, along with harsh accusations that Searle and the ICBG team were effectively biopirates attempting to manipulate and exploit the Aguaruna.<sup>9</sup> In a legal analysis prepared by Brendan Tobin, the Sociedad Peruana de Derecho Ambiental (Peruvian Society of Environmental Law) compared the letter of intent between Washington U. and the Aguaruna Huambisa Council with the Searle – Washington U. agreement. The analysis by Tobin objects to many of the legal ambiguities of the documents and criticizes the royalty rate as too low.<sup>10</sup> In effect, both NGOs’ opinions bolstered the Aguaruna Huambisa Council’s suspicion that they were being offered a skimpy royalty package and potentially set up for exploitation of their traditional knowledge. Notably, neither of the two intervening NGOs considered the possibility that a non-generous offer might reflect a marginal economic interest on Searle’s part and

not a highly elaborate plan to short change the Aguaruna out of highly valued indigenous knowledge.

At some point in 1994 the Aguaruna Huambisa Council had already accepted two-thirds of an up-front annual payment stipulated in the letter of intent as compensation for collections, although no final agreement had been established with the ICBG researchers. Given this, and likely feeling pressure to do plant collections due to the fiscal constraints of the ICBG grant and Searle's annual payments to the indigenous organization, the researchers entered the field in late 1994. It would be impossible to objectively verify exactly how and where the ICBG researchers were collecting during this most conflictive period due to highly contradictory accounts. Tobin states that collections were made largely in Aguaruna communities not affiliated with the Aguaruna Huambisa Council or working with non-Aguaruna, mestizo communities.<sup>11</sup> Lewis states that they were working out of a small mestizo town near Aguaruna communities and collecting largely without informants or working with mestizos. However, he admits that they were not clear on the territorial boundaries neither between mestizo and Aguaruna settlements nor even between which were or were not Aguaruna Huambisa Council communities.<sup>12</sup> Then president of the Aguaruna Huambisa Council states critically that, "without having authorization to enter into communities with the community chiefs they went astray in order to collect

orchids. They collected other species of medicinal plants in what could be called a 'discrete' fashion."<sup>13</sup>

In early 1995, due to dissatisfaction with the ICBG researchers' field activities and a distrust of the separate agreement between Searle and Washington U., which had been made available to them via the NGO Rural Advancement Foundation International, the Aguaruna Huambisa Council withdrew from the ICBG project entirely. The ICBG researchers returned to talk to their initial Aguaruna contact, the small Aguaruna organization OCCAAM hoping to salvage the project. They were then informed that OCCAAM did not recognize the Aguaruna Huambisa Council as a legitimate representative of their interests and they, along with two other small Aguaruna organizations, would be interested in supporting the research.<sup>14</sup> The result was a new written agreement, signed with the competing Aguaruna organization OCCAAM. However, in early March of 1995 the entire ICBG-Aguaruna effort, which began precisely with intentions of adequately addressing indigenous peoples' claims to benefit-sharing for the use of traditional medical knowledge seemed to be producing exactly the opposite effect. Having learned of the new agreement with the rival Aguaruna organization OCCAAM, the Aguaruna Huambisa Council sent a letter signed by various community leaders under its influence in protest of ICBG activities to the National Institutes of Health and Washington U. The Council made the letter public by submitting it to Rural Advancement Foundation International in the US

who translated and posted parts of it on their website.<sup>15</sup> The Council's letter alleges that Washington U. researchers denied them a Spanish translation of the separate Searle -Washington U. contract, entered into Aguaruna territory to do collections without permission, and demands their withdrawal. The letter also directly implies that the Aguaruna organization OCCAAM does not exist (referring to it as "the phantom group") which is quite ironic given that other Aguaruna report that OCCAAM emerged before the Aguaruna Huambisa Council and the relations between the two have never been cooperative.<sup>16</sup> The NGO's internet account of the events clearly presents "the Aguaruna" as one homogenous indigenous mass, favoring the Aguaruna Huambisa Council as the only legitimate representative of their interests, while ignoring the existence of OCCAAM and its role in the ICBG-Aguaruna negotiations.<sup>17</sup>

National Institutes of Health took the protest letter seriously and soon afterwards froze the project, insisting that Washington U. return all samples collected to date to Peru and that they clarify the terms of agreement and acceptance of the project with the Aguaruna. At that point, an entirely new set of negotiations with decidedly more formality between the ICBG researchers and different Aguaruna organizations resulted.

OCCAAM, cooperating with two other local Aguaruna organizations, organized a defense of the ICBG project, sending documentation to NIH and Washington U. to demonstrate support for the project and denounce the actions

of the Aguaruna Huambisa Council and its former president.<sup>18</sup> OCCAAM leaders also put the ICBG researchers into contact with a national level organization in Lima called the Confederación de Nacionalidades Amazónicas del Perú (Confederation of Amazonian Nationalities of Peru, hereafter CONAP) whose president is of Aguaruna origin. In December of 1995 CONAP convoked a large meeting and representatives from several local Aguaruna organizations attended. Notably absent was the Aguaruna Huambisa Council, still actively in protest of the project. The ICBG project gained acceptance from OCCAAM and the two other local level Aguaruna organizations involved in rebutting the Aguaruna Huambisa Council's protest: the Federación de Comunidades Nativas Aguarunas del Río Nieva (Federation of Aguaruna Native Communities of the River Nieva, or FECONARIN) and the Federación Aguaruna del Río Domingusa (Aguaruna Federation of the River Domingusa, or FAD). Also present at the meeting were Brendan Tobin representing the Peruvian Society of Environmental Law, the ICBG researchers and - to establish the first direct contact between the private drug company and the Aguaruna - a Searle representative. The Aguaruna organizations in affiliation with CONAP decided to designate three people to negotiate the contractual details of the acceptance with the ICBG researchers and Searle: Cesar Sarasara, CONAP's Aguaruna president, Mercedes Manriquez, a lawyer from Lima working in CONAP, and Brendan Tobin. In May of 1996, a team including Sarasara and the two lawyers traveled to St. Louis to negotiate the

final details with Searle and its lawyers face to face. The local Aguaruna organizations confided in CONAP, creating a consortium of Aguaruna organizations which hereafter I will refer to as CONAP & Co.<sup>19</sup> Diagram two specifies the actors involved, resulting agreements, and can be used as a reference for the abbreviations used throughout the text.

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In the second round of negotiations the direct relationship between CONAP's Aguaruna president, along with his two lawyers, and Searle effectively removed Washington U. as the legal intermediary in the negotiations: what many have considered the Aguaruna representing their own interests. However, one must acknowledge, given the highly technical legal language used in the agreements, that the advice of the 2 non-Aguaruna lawyers had considerable weight in the negotiations. A more adequate conclusion to draw would be that an Aguaruna representative represented their interests as filtered through and heavily influenced by legal discourse, advice and opinion.

The second round negotiations resulted in a different royalty and annual collection payment program, both with higher economic benefits than the ones originally offered by Searle in the first round and to be paid directly to CONAP & Co. due to the contractual relation established.<sup>20</sup> CONAP & Co. adopted Tobin's

idea of pushing for a "know-how" license agreement that was eventually accepted and which represents the direct contractual relation between Aguaruna organizations and the private drug company. Within the legal structures available the know-how license was a creative attempt to give CONAP & Co. a sense of greater control over their traditional knowledge. The new know-how license meant that in legal terms CONAP & Co. were licensing Aguaruna medicinal knowledge, as "know-how," directly to Searle for the period of the contract: akin to software licensing.<sup>21</sup>

The annual payments distributable by Searle were reformulated as and divided between a flat "collection payment" for the plant samples to be collected and, utilizing the know-how license concept, as "license fees" for the Aguaruna medicinal know-how. Thus, the "license fees" became payable to CONAP & Co. not only during the four-year period of field collections but for as long as Searle conducted research based on the Aguaruna medicinal know-how associated with the plant collections. Further, the know-how license includes a stipulation to provide two advance, non-returnable royalty payments, termed "milestones," to CONAP & Co. contingent on a potential new product reaching two advanced stages of drug development, should Searle proceed to filing: (1) an Investigational New Drug Application and (2) a New Drug Application for a Licensed Product with the US Food and Drug Administration.

As a complimentary document to the know-how license, CONAP & Co. signed a “Biological Collecting Agreement” with the ICBG researchers specifying the terms of the field collections. This agreement includes a stipulation “to ensure the fair and equitable sharing of benefits among the Aguaruna People through the sponsoring of projects designed to promote education, health, conservation, sustainable management of natural resources, and other local and regional projects.”<sup>22</sup> The agreement thus remains open to other individual Aguaruna communities, provided they apply for inclusion by affiliating with an Aguaruna organization, and open to other Aguaruna organizations, provided they are approved by CONAP & Co. in a traditional assembly called the Ipaamamu.<sup>23</sup> These aspects of the collection agreement attempt to ensure a measure of inclusion and equitable sharing among the Aguaruna, an important factor given that the rights claim being made over indigenous medicinal know-how is a collective one in the name of the “Aguaruna People,” the category used throughout the agreements. However, the definition of “Aguaruna People” used in the agreement identifies them as those Aguaruna “who live in the collection area,” the “collection area” then being defined as the communities under the Aguaruna organizations participating in the ICBG project.<sup>24</sup> This implicitly excludes those Aguaruna in other organizations or communities which chose not to affiliate to CONAP & Co. or do not even know such a possibility exists. In sum, the equation of “Aguaruna People” with CONAP & Co., plus the fact that all financial benefits are channeled

through their specific organizations, effectively legitimizes CONAP & Co. as the best, and implicitly only, representatives of the “Aguaruna People.” Needless to say, from any reasonable perspective other communities or organizations, including the Aguaruna Huambisa Council that forcefully rejected the ICBG project, do not cease to exist. Less still do they cease to be “Aguaruna Peoples,” despite the arbitrary legal definition used in the agreements that financially and legally legitimates CONAP & Co. exclusive claim to being Aguaruna peoples within the ICBG agreement.

With the multiple agreements in place, the ICBG finally got underway with collections in 1996 eventually to work in various communities affiliated with the participating Aguaruna organizations over the next 4 years, also holding annual meetings to discuss the progress of the project. In 1999 another local Aguaruna organization and long-time supporter of CONAP was added to the agreements: the Organización Aguaruna Alto Mayo (Aguaruna Organization of the Upper Mayo, hereafter OAAM).

#### Results of the ICBG-Aguaruna Project: Bad Odds and High Expectations

In total, 22 Aguaruna communities have been visited by the ICBG and approximately 3500 medicinal extracts made.<sup>25</sup> The short-term benefits, in terms of resources, technology, and direct employment, brought to Peru via the ICBG-Aguaruna project are not insignificant, representing close to a seven-figure sum.<sup>26</sup>

Obviously, the majority of these benefits manifest in the sharing of ICBG public grant funds with U. Cayetano and the Museum of San Marcos, which gave two Peruvian institutions a chance to participate in the research with Washington U. The ICBG grant funds also provided some employment for Aguaruna field coordinators and assistants, as well as covered costs for accommodations, transport etc. while inside Aguaruna communities. The annual payments (divided into license fees and collection fees) from Searle distributed directly to CONAP & Co. have been utilized for Aguaruna organizations' needs, and distributed to their affiliated communities in the form of small loans, a few scholarships for Aguaruna students, and as reimbursement to field informants working with the ICBG researchers to identify plants. Two Aguaruna field guides who worked closely with the ICBG were trained and learned a great deal about botany and scientific classification of plants eventually to direct their own field collections.<sup>27</sup>

Another significant effect of the ICBG is the political prestige it has bestowed on CONAP, the Lima based indigenous confederation, and Cesar Sarasara, CONAP's Aguaruna president. In the 1999 Annual ICBG meeting, the connection was made clear when Sarasara stated that the ICBG / Searle experience with CONAP had shown everyone involved "how an agreement is done." The indirect political and economic benefit for CONAP is also tangible to those familiar with the before / after picture of CONAP. Judging from the author's experience in 1997, before the real effects of the ICBG program, CONAP

consisted of little more than Cesar Sarasara in a small Lima office with a couple of desks, a phone and a typewriter, struggling to pay rent, power and the telephone bill. A few years later it is staffed by a number of salaried workers, sponsors events, and has the visible material items found in any functioning, if still struggling to survive, NGO (computers, fax machine, website etc.). Sarasara, in particular, whose business degree and Aguaruna origin make him an appealing leader and savvy multi-cultural negotiator, has become a frequent invite on the global indigenous representative circuit. He has since been frequently sought after by the press, awarded a prize by the International Society of Ethnobiology and become a co-author on a scientific paper: all events directly related to the ICBG project.<sup>28</sup>

However, the rise of CONAP has its counterpoint in the fall of the Aguaruna Huambisa Council. The Council's reputation has taken a notable dive in the wake of CONAP & Co.'s renegotiation of the ICBG project due to some questioning of the Council's version of the events with the ICBG, remaining queries over the initial annual payment delivered to their organization in the first round of negotiations, and the general external perception that in the end CONAP & Co. did a better job of negotiating (though of course persons highly involved with the Council continue to be critical of the renegotiations). During the controversy over the ICBG several other smaller Aguaruna and Huambisa organizations threatened and eventually claimed formal disaffiliation with the

Council. However, it is only fair to point out that the Aguaruna Huambisa Council has historically been involved and to some degree successful in very difficult battles for political and territorial rights for indigenous peoples. The reputation problems the Council has gained from their controversial rejection of the ICBG project should be weighed carefully against the organization's history in searching for a greater voice for the Aguaruna and Huambisa communities, subject to the same political-economic and cultural impositions as many other indigenous peoples.

The real danger of the ICBG-Aguaruna experience lurks in the expectations the project has created among CONAP & Co. and the Aguaruna generally. These expectations involve an increasing comfort with the privatization of traditional medicinal knowledge and the anticipation of its exchange for large sums of money. For example, I was present during several meetings to discuss the ICBG project when the fourth local Aguaruna organization, OAAM, was added to the agreement and the CONAP & Co. consortium. The leaders of CONAP routinely presented the ICBG as a project that would bring nearly one million dollars into Aguaruna communities within ten years (in reference to the 2 advance royalty payments were Searle to proceed to the two Food and Drug Administration stages stipulated in the know-how license) and subsequently ten million dollars annually for twenty-five years (in reference to the future royalties to be earned should a product come to market). Presumably these numbers emerged as a hypothetically

very successful example in CONAP & Co.'s negotiations with Searle, the ICBG researchers and their own legal advisors. Yet, the nearly one million dollars was presented as due CONAP & Co. during the research phase with no clear indication that Searle may never reach those stages of research, stressing instead that the money would not have to be returned should no final product emerge. CONAP's explanation, in reference to these advance royalty payments of nearly one million, hinged on the idea that "if medicine is not found then the money is not to be returned." CONAP presented the latter royalty figure, ten million annually after ten years, as contingent on Searle selling a pharmaceutical product with no indication that market failure is also a realistic possibility, conveying that these sums would become available "if medicine is found." The local Aguaruna organization OAAM incorporated this information and began trying to convince its own member communities of participation in the ICBG project. On various occasions OAAM's explanation of the project to its community affiliates presented the same million dollar figures saying they would be paid "once medicine is discovered" or "when they discover medicine." OAAM leaders' explanation of the project discursively omits contingencies of any kind and instead conveys a great degree of certainty about the large cash sums, creating a notable sense of expectancy. A past president of the Aguaruna organization FAD reports that Aguaruna communities on the Domingusa river were told to expect millions of dollars in the year 2000. The fact that millions of dollars have not yet arrived (nor

will they arrive in any foreseeable future) has already begun to stir up resentment towards the leaders of CONAP in particular, who, he says, are deemed responsible.

The Aguaruna organizations' expectations of large sums of money in the future are especially disheartening given the research results of the ICBG project and the rather serious odds against a future, successful commercialization based on their medicinal know-how. In 1997 at a previous ICBG annual meeting, in which I was present, a representative from Searle explained in detail the low probabilities of success associated with finding new drug leads. Presumably he intended to balance his presentation between confirming Searle's support of the ICBG-Aguaruna project while providing a subtle warning that the odds for a final product reaching the market are in fact extraordinarily bad. At the most recent ICBG annual meeting with CONAP & Co., in September of 1999, Walter Lewis of Washington U. announced on behalf of Searle, which sent no representative to the meeting, that Searle did not intend to extend the know-how license with CONAP & Co. past the initial contract period ending in the year 2000. Searle pulled out of the research entirely leaving Lewis the task of breaking the news of termination of the know-how license to CONAP & Co.

Lewis also provided the results of Searle's research into the ICBG-Aguaruna samples collected over the four years. The results show a clear lack of interest in the project on Searle's part. Searle had investigated the samples in a

robotic process referred to as mechanistic screening that essentially tests the plant samples in a uniform manner, ignoring the specific medicinal qualities, applications, sicknesses etc. indicated by the Aguaruna who worked as informants for the ICBG collectors. Despite the know-how license signed between CONAP & Co. and Searle, in the end the company expressed little interest in using the know-how component in their own investigation, instead treating the plants simply as a series of differing biological samples that might randomly produce an interesting lead. Nor presumably would the Aguaruna know-how have mattered much in Searle's research given that it conducted tests exclusively related to its company interests in diabetes, cardiovascular and inflammatory diseases, which are health conditions common to high buying-power consumers - and not to the Aguaruna. In sum, it is clear that Searle has had little interest and no success in the ICBG-Aguaruna project, hence their desire not to continue. Washington U. has done some small-scale laboratory research itself having identified possible leads in the areas of malaria and TB.<sup>29</sup> Yet, given Searle's withdrawal from the ICBG project and the limited research resources available to university researchers, this likely entails finding another interested private sector partner to take over the university research. Locating another private sector pharmaceutical company amounts to a presentable challenge given the increasing disinterest among the private sector in research involving medicinal plants and traditional knowledge, combined with the well-known (if still little analyzed) political

controversy created during the ICBG - Searle negotiations with rival Aguaruna organizations.

The unfortunate outcome of this project is high economic expectations on CONAP & Co.'s part, dramatically out of proportion to the statistically bad odds involved in successfully commercializing a pharmaceutical product based on Aguaruna traditional know-how. With the announcement of Searle's withdrawal at the 1999 ICBG meeting and the general understanding that Searle had not done justice to the Aguaruna medicinal know-how, the disappointment among CONAP & Co. became palpable. One Aguaruna leader wanted to know if the advance royalty payments (i.e. the nearly one million expected within ten years) would still be delivered to CONAP & Co., although clearly that will not be the case since those payments were contingent on Searle proceeding to advanced stages of research involving certain FDA protocols. Sarasara, CONAP's president, also expressed profound disappointment saying that they wanted to know why Searle had not done good research. Interestingly, his comments did not reference the legal, economic or contractual aspects of Searle's withdrawal but instead referenced the morality of it. He asked Lewis, the principal investigator of the ICBG, to ask Searle on CONAP & Co.'s behalf what their "moral ethic" is in pulling out of the project. Further, he wondered aloud in Searle's absence: "But, if it was a dialogue at the start, why is there is no dialogue at the end?" This of course refers to the fact that in the second round of negotiations of the ICBG project, after the

controversy with the Aguaruna Huambisa Council, Searle established direct relations with the Aguaruna through the CONAP & Co. consortium by assisting meetings with them, bringing Sarasara and his lawyers to St. Louis to negotiate, and signing the know-how license. It was suddenly obvious that the company's withdrawal from the project and the termination of the know-how license would not be accompanied by the same face-to-face treatment.

Oddly, despite the withdrawal of Searle and the apparent halt in the project (collections also having ended due to the termination of the ICBG public grant funds) high expectations persist among some Aguaruna. In July of 2000 a local Aguaruna leader of the organization FAD informed me rather excitedly that he had heard that the results of the ICBG research to commercialize a product based on Aguaruna medicinal plants were "ninety percent." When I asked him what the "ninety percent" referred to, he responded, "It must mean ninety percent success." I did not ask any further questions about the mysterious "ninety percent." "But," he added to emphasize his point about imminent success, "If a gringo [i.e. white foreigner] says ninety percent, that's like a Peruvian saying one hundred and ten percent!"

Intellectual Property, Resources, or Territory?

The ICBG-Aguaruna project, despite the controversial negotiations it entailed, clearly represents an attempt to respond to the goals of the Convention

on Biological Diversity about benefit-sharing in bioprospection activities in developing nations and with indigenous peoples when their traditional knowledge is involved. However, the ICBG-Aguaruna project also demonstrates some central contradictions in the currently popular debate about traditional knowledge as the collective intellectual property of indigenous groups.

The ICBG-Aguaruna case shows with particularly clarity the manner in which the high expectations created have encouraged an indigenous group to think of their traditional knowledge as an intellectual property exchangeable for extraordinary profits, an idea frequently reinforced by their own contacts with NGO activists and other external advisors. However, this is directly in the face of a drug industry (the only real source of capital in terms of pharmaceutical markets) with a rather trivial interest in traditional knowledge, when it has an interest at all. Should the expected long-term profits never arrive, as seems the most likely scenario, this situation runs the risk of furthering the sense of impoverishment and betrayal the Aguaruna feel at the hands of researchers and private interests: two categories of foreign actors not easily distinguishable to them. Further, quite contrary to promoting conservation of traditional knowledge and of biodiversity through finding a use for them in the drug market, this situation runs the risk of producing the opposite. Rethinking traditional knowledge in terms of intellectual property might just as easily leave indigenous groups with inflated and unrealistic expectations about the economic value of such

property, further undermining the local cultural and social values attached to it. Meanwhile betting on biodiversity's uncertain value in the drug discovery market may easily produce the contrary effect, demonstrating instead that the conservation of biodiversity for potential drug finds represents not a source of market potential but barriers to it (given the more ecologically destructive, extraction practices already common in tropical forest areas).

Another significant problem that emerges from the ICBG – Aguaruna case is the internal factionalism of the indigenous group in question, displayed clearly in the history told here. Aguaruna representative organizations working against each other clearly contradicts the fact of external parties (researchers, companies, NGOs etc.) viewing the “Aguaruna People” as a homogenous collective. The internal factionalism of the Aguaruna also contradicts the claims made to intellectual property as a collective right and traditional knowledge as a collectively owned property (by both outsiders and the rival Aguaruna organizations themselves). The result seems to be the aggrandizement and implicit legitimating of certain factions and/or certain leaders within the indigenous group, unsurprisingly tending to correspond with those perceived as most “successful” in negotiating with powerful outside interests and/or those perceived as more authentic representatives of the group in question.<sup>30</sup>

As evidenced in the ICBG - Aguaruna case, the current hype over intellectual property rights claims does in fact promote an imposition of market

logic onto traditional knowledge as some anthropologists predict.<sup>31</sup> This may be an imposition readily accepted by indigenous peoples in some cases, given their growing dependency on market economies and sense of deepening impoverishment as a result of such dependency. Acceptance of such an imposition simultaneously reflects indigenous people's search for external recognition of their plight in a world that above all else, as they themselves clearly understand, values the dollar. Yet, the imposition of market categories is likely to promote the rise of economic expectations unlikely to be met in any foreseeable future, at least in terms of pharmaceutical bioprospection research. In this sense, other notable analysts point out that the current hype over intellectual property rights for indigenous groups' traditional knowledge is a premature maneuver in countries where exploitation by the nation's elites and foreign capital still prove to be the most significant negative impact on indigenous territories, promoting land invasion and destructive resource extraction.<sup>32</sup>

Given the criticism of the use of intellectual property as an answer to rights claims over traditional knowledge it seems only reasonable to think in terms of possible alternatives. Darrell Posey and Graham Dutfield have begun this endeavor by replacing one three-letter abbreviation with another: IPR (Intellectual Property Rights) with TRR (Traditional Resource Rights). In brief, due to a growing discomfort with seeing traditional knowledge in terms of intellectual property they advocate it being conceived as a "traditional resource" among other

resources on which indigenous peoples draw in an effort to sustain themselves: “The change in terminology from IPR to TRR reflects an attempt to build on the concept of IPR protection and compensation, while recognizing that traditional resources - both tangible and intangible - are also covered under a significant number of international agreements that can be used to form the basis for a sui generis system.”<sup>33</sup>

It is true that several international agreements use a language of resources in reference to indigenous rights, yet, one must reflect on the ideological implications of the constant discursive use of “resources.” While not necessarily bound up with market concepts to the same degree as intellectual property, an advocacy of “resource rights” certainly corresponds to a Western-oriented, utilitarian view of the world. Posey and Dutfield’s TRR approach ideologically converts everything that sustains indigenous cultures into exploitable materials and quasi-materials of instrumental reason. In the case of an intangible concept like traditional knowledge this seems especially problematic since what is identified as traditional knowledge is inevitably found embedded in social-cultural practices that incorporate a sense of sacredness, ritual, or religion and hence is not as clearly alienable as other, more immediately material, objects. In fact some of the more severe objections from other indigenous representatives (decidedly less enthusiastic about market concepts than the Aguaruna involved in the ICBG) regarding the move to consider traditional knowledge as intellectual property is the

perceived sacrilege it entails. In effect, they argue that viewing traditional knowledge as property, as an alienable “thing,” is culturally destructive since its local origin in values considered sacred is precisely what makes it culturally specific and meaningful to them.<sup>34</sup> Viewing traditional knowledge as yet another “resource,” like oil or wood, seems to replicate this sacrilege using a less market-oriented but still essentially utilitarian vocabulary.

As an alternative to the focus on intellectual property and/or resource rights, I propose instead a renewed focus on rights to territory for indigenous peoples.<sup>35</sup> The preference for a territory based approach to the issues of bioprospection and traditional knowledge is proposed according to the following rationale:

(a) The concept of territoriality has played a central role in indigenous peoples’ struggles for land rights for decades, based on the premise that without a definable and defensible territory indigeneity is undermined and local cultures eroded. In that sense, the material claim to specific geographic territories cannot be separated from what is fundamentally a political and moral claim to self-determination, a concept heavily promoted by indigenous groups themselves and recognized in international treaties like the UN Draft Declaration on the Rights of Indigenous Peoples. Refocusing attention on the more fundamental notion of territoriality might encourage projects dealing with traditional knowledge and bioprospection, like the ICBG, to be phrased in terms of access to territory rather

than to knowledge. In this sense, the proposal is perhaps more radical rather than less. A strategy of territorial rights explicitly promotes greater autonomy and hence bolsters a politics of self-determination that indigenous peoples are already demanding.

(b) The first point brings up the issue of states governing over indigenous populations. Given that many indigenous groups face as many or more problems from their own nations' elites as from the corporate sector of highly developed countries, the focus on territoriality could promote a productive political confrontation with the state. If negotiated and implemented strategically with a sense of territoriality in mind, projects involving bioprospection and traditional knowledge (to the extent that they continue) could provide certain amounts of external leverage, encouraging states to further promote and/or respect the territorial rights of indigenous populations. In light of the Convention on Biological Diversity's recognition of states' sovereign control over biological resources found in their national territory, this might also promote considering indigenous groups' rights to territory more on a par with states' territorial rights.

(c) Emphasis on territoriality also avoids some of the ideological pitfalls of the intellectual property and the traditional resource rights approaches to traditional knowledge. The former automatically implies market logic and the latter, if not repeating the problem with a different vocabulary, at least appeals to a universal utilitarianism. Clearly, the term "territoriality" is also problematic in

some ways. In particular there is always a potential problem in defining and defending borders, although states are experts at imagining and legitimizing themselves as national communities (a la Benedict Anderson) and thereby maintaining international recognition of such. Territoriality, defined broadly, does not imply any necessary connection to market logic, nor does it promote the idea that everything that sustains a society/culture be viewed as a resource of utility. Territoriality may in fact be an appropriate way to encourage a stronger sense of political integrity and consistency for indigenous peoples, challenging them to (self-) determine what should and should not be considered a "resource" or what should or should not become accessible to market concepts of "property" and commercialization: hence also a method for preserving the values associated with local cultures.

(d) Finally, as the Aguaruna – ICBG case demonstrates clearly, indigenous peoples do not represent homogenous collectives despite many external desires to imagine them as such and despite the attempts to focus the intellectual property rights debate around a clearly defined collective. Rather, they are collectives with a large degree of internal division and even factionalism (as is any imagined community), making it difficult at times to determine who or what institution can be considered a legitimate representative of their interests, when and in what context. The concept of territoriality will also necessarily be caught up in the problem of how to identify and define who governs or represents indigenous

territories: but this is precisely the point. The focus on territoriality should be viewed simultaneously as a challenge to indigenous peoples to confront the realities of their own internal division and varying interests, not necessarily to erase them, but rather to manage them in regards to outside interests. Indigenous peoples would be encouraged to come to terms with their own internal contradictions through searching for a representative institutional form of internal organization and governance, as is the case with any imagined collectivity.

Reframing the debate over traditional knowledge and bioprospection to a language of rights to territory is in fact an attempt to readjust the focus towards rights claims largely still in process and with considerable challenges. This is accompanied by the suggestion that territoriality be considered a more fundamental, and likewise more universal, concern as indigenous peoples build institutions to define and represent their interests in a confrontational historical situation which seems to demand such measures. Should a greater external recognition to territorial rights take force, in the long run it might prove to have much better odds in favor of indigenous peoples struggles, than those contained in the attempt to make million-dollar medicine from the traditional practice of plants.

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<sup>1</sup> Several institutions provided grants to support the fieldwork on which this chapter is based. I gratefully acknowledge the support of Fulbright, Wenner-Gren and the

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Social Sciences Research Council for supporting various stages of the research. An earlier draft of this chapter was presented at the conference organized at the University of Milwaukee “Between the Global and the Local: Making Human Rights Claims in the 21<sup>st</sup> Century,” April 28-29, 2000. I thank all the participants and especially the organizers, Mark Bradley and Patrice Petro, who gave helpful comments for the revised version presented here. Several other persons provided comments on earlier versions: Manuela Carneiro da Cunha and the participants in her Intellectual Property Seminar at the University of Chicago in Winter of 2000 and Michael Brown at Williams College. Clearly this work has benefited greatly from an active dialogue with the ICBG researchers, the Aguaruna involved, and Brendan Tobin. To all of those involved I remain grateful. Nevertheless, the ideas and history presented here reflect the author’s perspective on the issues in question.

<sup>2</sup> For discussions of traditional knowledge as intellectual property see: Brush, Steven and Deborah Stabinski, eds. Valuing Local Knowledge: Indigenous Peoples and Intellectual Property Rights (New York: Island Press, 1996); Greaves, Tom, ed. Intellectual Property Rights for Indigenous Peoples: A Source Book (Oklahoma: Society for Applied Anthropology, 1994); Posey, Darrell and Graham Dutfield, Beyond Intellectual Property (Ottawa: International Development Research Centre, 1996). For a discussion of intellectual property in the context of human rights and other cultural rights claims see: Coombe, Rosemary, “Intellectual Property, Human Rights and Sovereignty: New Dilemmas in International Law Posed by the Recognition of Indigenous Knowledge and the Conservation of Biodiversity,” Indiana Journal of Global Legal Studies 6 (1998):59-116.

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<sup>3</sup> See Aylward, Bruce, "The Role of Plant Screening and Plant Supply in Biodiversity Conservation, Drug Development and Health Care," 93-126, and Albers-Schönberg, Georg, "The Pharmaceutical Discovery Process," 67-92, in T. Swanson, ed. Intellectual Property Rights and Biodiversity Conservation (Cambridge: Cambridge University Press, 1995); Artuso, Anthony, "Capturing the Chemical Value of Biodiversity: Economic Perspectives and Policy Prescriptions" in Francesco Grifo and Joshua Rosenthal, eds. Biodiversity and Human Health (Washington DC: Island Press, 1997) 184-204.

<sup>4</sup> See Farnsworth, Norman, "The Role of Ethnopharmacology in Drug Development," in, Bioactive Compounds from Plants, Ciba Foundation Symposium 154 (Chichester: Wiley and Sons, 1990) 2-11.

<sup>5</sup> See O'Conner, Tanya, "Interest Drops in Rainforest Remedies," Health24News 1 (July 7, 2000).

<sup>6</sup> See Rosenthal, Joshua, "Integrating Drug Discovery, Biodiversity Conservation, and Economic Development: Early lessons from the International Cooperative Biodiversity Groups," in, Biodiversity and Human Health. Grifo, Francesco and Joshua Rosenthal, eds., (Washington DC: Island Press, 1997) 281-301; Mitchell, Sean "The Cultural Politics of Biodiversity Conservation, Economic Growth and Drug Discovery: The ICBG Program's 'Triple Whammy,'" (University of Chicago, unpublished masters thesis).

<sup>7</sup> See Mitchell, "The Cultural Politics of Biodiversity..." 28; Walter Lewis, the principal investigator of the ICBG-Aguaruna project, made a similar statement regarding the reticence of drug companies to participate in bioprospection and the

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difficulty some ICBG researchers have had in finding a willing private sector partner; personal interview (April 8, 2000).

<sup>8</sup> Nugkuag, Evaristo, personal interview (August 4, 2000).

<sup>9</sup> See Rural Advancement Foundation International, "Bioprospecting/Biopiracy and Indigenous Peoples," RAFI Comunique (November, 1994), website: [www.rafi.org](http://www.rafi.org).

<sup>10</sup> See Tobin, Brendan "Putting the Commercial Cart Before the Cultural Horse" (Sociedad Peruana de Derecho Ambiental Library, Lima, 1994).

<sup>11</sup> Tobin, Brendan "Putting the Commercial Cart Before the Cultural Horse: Part II," unpublished manuscript.

<sup>12</sup> Lewis, Walter, personal interview (April 8, 2000).

<sup>13</sup> Nugkuag, Evaristo, personal interview (August 4, 2000).

<sup>14</sup> Lewis, Walter, personal interview (April 8, 2000).

<sup>15</sup> See Rural Advancement Foundation International "Biopiracy Update: A Global Pandemic" RAFI Comunique (September / October, 1995), website: [www.rafi.org](http://www.rafi.org).

<sup>16</sup> The author also holds a copy of the letter: Consejo Aguaruna Huambisa, Letter of Protest addressed to National Institutes of Health and Washington University, (March 10, 1995, Urakusa, Peru). In research interviews related to the history of the Aguaruna Huambisa Council and OCCAAM several other Aguaruna have dated the organization OCCAAM prior to the Council.

<sup>17</sup> The RAFI exposé makes no mention whatsoever of the ICBG's established relations and agreement with OCCAAM, stating: "without consultation with or approval from indigenous people, Washington University researchers unilaterally decided to initiate collection of samples and ethnographic material (to be provided to

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chemical giant Monsanto) in remote native communities in northeastern Peru." See Rural Advancement "Biopiracy Update," 5.

<sup>18</sup> The author holds a copy of a letter and an assembly record signed by the leaders of the organizations OCCAAM, FECONARIN and FAD which express satisfaction with the ICBG researchers activities and a desire to implement the project in communities affiliated to these three organizations. The two documents also heavily question the criticisms of the ICBG formulated by the Aguaruna Huambisa Council and reject the representativity of both the Council and its well-known former president.

<sup>19</sup> "CONAP & Co." refers to CONAP and its affiliates, OCCAAM, FAD, FECONARIN (and later the organization OAAM, added to the project in 1999). The term is obviously not accidental since it is my opinion that by this point CONAP & Co. was in fact acting as much like a corporate entity as it was "Aguaruna peoples," the category consistently used in the ICBG agreements. However, I do not necessarily presume that the two categories of Aguaruna peoples and CONAP & Co. are mutually exclusive. Rather, it is intended as a more adequate way of representing the specific Aguaruna organizations involved which in fact do not exhaust the broader category of "Aguaruna peoples" according to an understanding that includes the Aguaruna Huambisa Council and other organizations despite not participating in the ICBG project.

<sup>20</sup> See Tobin "Putting the Commercial Cart . . . Part II."

<sup>21</sup> Ibid.

<sup>22</sup> International Cooperative Biodiversity Group, "Biological Collecting Agreement" (1996): article 3.01.

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<sup>23</sup> Ibid: article 7.

<sup>24</sup> Ibid: article 1.01 and 1.07.

<sup>25</sup> The number 3500 is slightly misleading given that Lewis states that many of those extracts are duplicates of the same plant. It is also important to note that other non-medicinal plants (and sometimes non-identifiable by the Aguaruna) were collected for the purposes of a biodiversity inventory (samples to be sent both to the Museo de San Marcos in Lima and to the Missouri Botanical Gardens). The inventoried plants are not made available as screening samples to Searle. The total of plants collected, including medicinal and inventoried plants, is around 4800; Lewis, personal interview (April 8, 2000).

<sup>26</sup> Lewis, personal interview (April 8, 2000).

<sup>27</sup> Lewis, personal interview (April 8, 2000). Also see: Lewis, Walter, Gerardo Lamas, Abraham Vaisberg, David Corley and Cesar Sarasara, "Peruvian Medicinal Plant Sources of New Pharmaceuticals (International Cooperative Biodiversity Group Program – Peru)" Pharmaceutical Biology, Supplement 37 (1999), 69-83.

<sup>28</sup> Sarasara was awarded the first Jose Guallart Prize granted by the International Society of Ethnobiology (Walter Lewis, personal communication). Also, see Lewis et.al. "Peruvian Medicinal Sources of New Pharmaceuticals" in which Sarasara is listed as a co-author.

<sup>29</sup> For an account of the division of research interests between Searle, Cayetano University in Lima, and Washington University and their results thus far see: Lewis et.al. "Peruvian Medicinal Plant Sources of New Pharmaceuticals."

<sup>30</sup> This tendency toward aggrandizement of certain bi-cultural indigenous leaders and the emergence of an organized representative politics among Amazonian

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indigenous groups is discussed by Brown, Michael "Facing the State, Facing the World: Amazonia's Native Leaders and the New Politics of Identity," L'Homme, 33 (1993), 307-326; and Conklin, Beth and Laura Graham "The Shifting Middle Ground: Amazonian Indians and eco-politics." American Anthropologist, 97(4) (1995), 695-710.

<sup>31</sup> See Brush, Steven "Whose Knowledge, Whose Genes, Whose Rights?" in Valuing Local Knowledge, Steven Brush and Deborah Stabinsky, eds, (Washington DC: Island Press, 1996), 1-21.

<sup>32</sup> See Coombe, Rosemary "Intellectual Property, Human Rights and Sovereignty," 74; Dove, Michael, "Center, Periphery, and Biodiversity: A Paradox of Governance and a Developmental Challenge" in Valuing Local Knowledge, Steven Brush and Deborah Stabinsky, eds. (Washington DC: Island Press, 1996) 41-67.

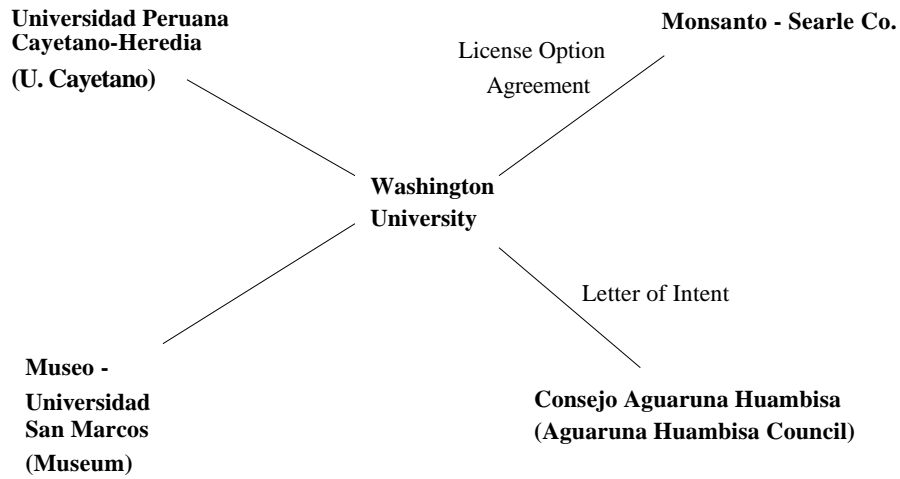
<sup>33</sup> Posey and Dutfield, Beyond Intellectual Property, 95.

<sup>34</sup> See Coombe, "Intellectual Property, Human Rights and Sovereignty."

<sup>35</sup> For accounts which also emphasize local rights to territory see: Escobar, Arturo "Whose Knowledge, Whose Nature? Biodiversity, Conservation, and the Political Ecology of Social Movements" Journal of Political Ecology, 5 (1998), 53-82; Cepek, Michael, "The Amazonian Struggle for Territory: Environment, Way of Life, and the Indigenous-Environmentalist Alliance" Unpublished Masters Thesis (University of Chicago).

DIAGRAM 1

**First Round ICBG-Aguaruna  
Negotiations:  
Agreement Structure**

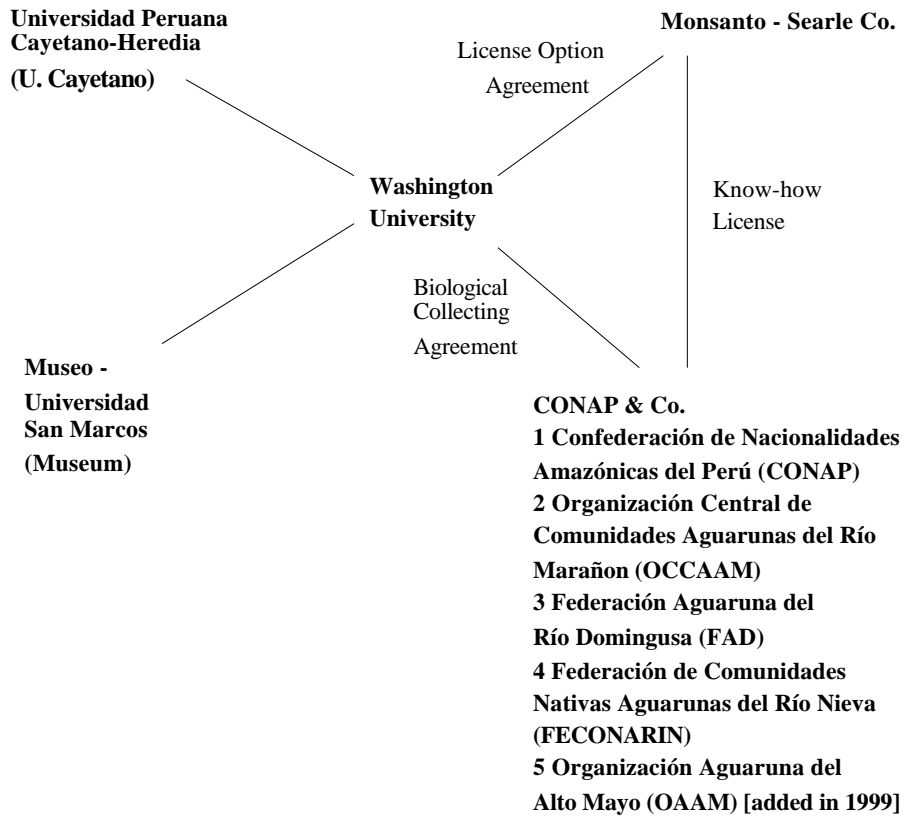


Original Aguaruna Contact:  
Organización Central de Comunidades Aguarunas del Alto Marañón (OCCAAM)

NGO Intervention:  
Rural Advancement Foundation International  
Peruvian Society of Environmental Law

## DIAGRAM 2

**Second Round ICBG-Aguaruna  
Negotiations:  
Agreement Structure**



Other Negotiators Present:

Brendan Tobin, Peruvian Society of Environmental Law

Mercedes Manriquez, CONAP