Journal of Critical Global Issues

Volume 1 | Issue 1 Article 1

February 2024

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Recommended Citation

Sabin, Amanda (2024) "Prioritizing Indigenous Participation and Compensation in Research," *Journal of Critical Global Issues*: Vol. 1: Iss. 1, Article 1.
DOI: https://doi.org/10.62895/2997-0083.1004
Available at: https://digitalcollections.sit.edu/jcgi/vol1/iss1/1

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Cover Page Footnote

This work would not have been possible without the guidance and support of Dr. Nishanta Rajakaruna.

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ISSN:

Journal of CRITICAL GLOBAL ISSUES

SIT SCHOOL FOR INTERNATIONAL TRAINING

Prioritizing Indigenous Participation and Compensation in Research

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Abstract

Throughout history, the dynamic between colonial entities and indigenous groups has been characterized by exploitation and power imbalance. Indigenous knowledge has the potential to positively impact the world, through medicinal breakthroughs, radical approaches to sustainability, cultural heritage, systems of learning and adaptation, and more. Particularly in the context of research, fields like anthropology, botany and pharmacology serve to benefit from indigenous knowledge, but these interactions cannot continue to be based on extraction at the cost of indigenous communities. This work will discuss the future of relationships between researchers and indigenous communities; how this power dynamic must be transformed into an ethical partnership that prioritizes indigenous involvement and compensates contributions. Dr. Brij Kothari's concept of "Rights to the Benefits of Research" provides a framework to explore case studies that demonstrate both positive and negative precedents of relationships between researchers and indigenous stakeholders. The participation of indigenous community members should be facilitated and promoted throughout the design, execution, and analysis of research. This is an ethical necessity, as well as being crucial to contextualizing and understanding results. Furthermore, researchers should compensate indigenous contributions in a manner determined by both parties. Respect and empowerment are the core of these guidelines, and any external party interacting with an indigenous one should prioritize the adoption of these moral and ethical tenets.

Resumen

A lo largo de la historia, la dinámica entre las entidades coloniales y los grupos indígenas se ha caracterizado por la explotación y el desequilibrio de poder. El conocimiento indígena tiene el potencial de influir positivamente en el mundo, a través de avances medicinales, aproximaciones radicales de la sostenibilidad, patrimonio cultural, sistemas de aprendizaje y adaptación, y mucho más. Especialmente en el contexto de la investigación, campos como la antropología, la botánica y la farmacología se benefician de los conocimientos indígenas, pero estas interacciones no

pueden seguir fundados en la extracción a costa de las comunidades indígenas. Este trabajo debatirá el futuro de las relaciones entre investigadores y comunidades indígenas; cómo esta dinámica de poder debe transformarse en una asociación ética que dé prioridad a la participación indígena y compense sus contribuciones. El concepto del Dr. Brij Kothari de "Derechos a los beneficios de la investigación" proporciona un marco para explorar estudios de casos que demuestran precedentes tanto positivos como negativos de las relaciones entre investigadores y partes interesadas indígenas. La participación de los miembros de las comunidades indígenas debe facilitarse y promoverse a lo largo del diseño, la ejecución y el análisis de la investigación. Se trata de una necesidad ética, además de ser crucial para contextualizar y comprender los resultados. Además, los investigadores deben compensar las contribuciones indígenas de una forma que determinen ambas partes. El respeto y el empoderamiento son el núcleo de estas directrices, y cualquier parte externa que interactúe con un indígena debe priorizar la adopción de estos principios morales y éticos.

Keywords

Participatory research, right to the benefits of research, indigenous rights, indigenous compensation, indigenous research

Introduction

Throughout history, colonial powers with the wherewithal have manipulated, exploited, and otherwise wronged indigenous persons. One arena where this power dynamic continues to function is scientific research. Typically, fields including anthropology, botany, and pharmacology conduct research in indigenous areas and utilize traditional ecological knowledge (TEK), yet rarely are indigenous groups included in the research process. Instead, they are frequently alienated from their own intellectual property and culture as researchers use TEK for personal and global benefit. Any group doing field work that is involved with or proximal to indigenous communities needs to adhere to a high standard of ethical principles throughout the research process. This paper uses Kothari's Rights to the Benefits of Research, or RBR, as a framework to discuss the future of research in indigenous communities. RBR details the necessity of indigenous participation and compensation throughout the process of research, including consultation, community access to the written work, benefits such as medical developments, and inclusion in potential long-term income (Fundación Indígena & Kothari, 1997). Researchers have an obligation to the indigenous people they learn from to develop an equitable partnership in place of recreating the paternalistic relationship that has been the default for so many years. Instead of entering indigenous territory to profit off their practices, researchers ought to work with local stakeholders to ethically gather information. A key part of this partnership needs to be appropriate compensation for indigenous communities, which can take different forms and should be collectively discussed at the beginning of the research process.

Colonial attitudes have negatively impacted native peoples for centuries and continue to permeate all scientific fields. One key factor in this dynamic is paternalism, referring to an imbalance in power in which external players infantilize indigenous people, attempting to control them 'for their own good.' This attitude manifests itself in research in multiple ways. Whether consciously or unconsciously, outsiders are likely to inaccurately view indigenous people as

inferior and incapable, resulting in treatment as subjects of research rather than equal participants and stakeholders. Researchers often gain access to traditional ecological knowledge, cultural practices, and other information without due process, using manipulative methods and failing to consult indigenous community members. This is not only unethical but can lead to inaccurate conclusions as information is skewed through a Western lens.

The first part of remedying this damaging and exploitative practice is focusing on indigenous participation (Fundación Indígena & Kothari, 1997). Specifically, indigenous stakeholders should be consulted and included in all elements of research that involve their land and/or culture. This should begin with the initial draft of the process and be maintained throughout, including the structuring of appropriate and respectful methods. In addition to shaping their design, community members should be presented with the option to participate directly in these methods. Researchers should encourage and value greater participation. Researchers should also prioritize indigenous analysis in the review process. Indigenous perspectives are crucial to meaningful understanding of the data collected.

In order to ethically redesign the way research is conducted in indigenous communities, it is necessary to discuss the matter of compensation in addition to participation (Fundación Indígena & Kothari, 1997). Indigenous groups deserve payment for their contributions, which can take varying forms. Consultation, intellectual property (i.e. cultural traditions and knowledge), or physical assistance (i.e. guiding or lodging researchers) are all significant contributions to a research process that are typically undervalued. After establishing that compensation is fundamental to ethical research, it is necessary to determine how it is best provided. A popular suggested solution is the idea of authorship; that indigenous leaders or communities shall receive some form of legal possession over their intellectual property. While authorship is an important component of any research agreement, it should not be factored into compensation. Compensation should be based on what community representatives believe would be the most beneficial to them and should be agreed upon by both parties before work starts. While this could come in the form of monetary payment, researchers could also provide it through nontraditional means like community resources, education, or land protection. Using the framework of RBR, researchers can reshape the destructive, paternalistic precedent of relationships between researchers and indigenous communities.

The purpose of this paper is to outline a more ethical, modern way to conduct research in indigenous communities that includes the participation, compensation, and empowerment of indigenous players. I advocate for indigenous rights, specifically in the context of non-native research involving indigenous communities and/or their land. In writing this paper, I completed an extensive literature review on the topics of paternalism, colonial influences, indigenous interactions with researchers, and compensation in these contexts. While still not widespread, it is becoming more common for researchers in the social sciences to employ participatory methods. However, I found a significant gap in the literature regarding indigenous compensation in the research process, despite other authors discussing compensation in the case of commercially successful pharmacological exploits. This paper's goal is to begin the process of filling that gap by drawing contemporary attention and urgency to the topic. Kothari's RBR framework highlighting the need for intentional and systematic compensation measures was published over 25 years ago. In the decades since then, the principles of RBR have been implemented sporadically and sparsely through various research projects, with an overall lack of

consistency and priority. By collecting and analyzing examples of positive and negative indigenous research interactions in the years following Kothari's original work, this paper brings RBR to the modern context and investigates how it can be successfully implemented in the years to come.

It is important to define and clarify some of the language present in this work. I have written this in the context of mainly academic research, but the principles I discuss apply to any party interacting with an indigenous community. I use the terms researcher and external player/party interchangeably. When these terms are used, the assumption about these characters is that they are occupying a higher position of power in their dynamic with an indigenous group, whether they are white, associated with or representing the Western world, or otherwise holding an entitled role. This paper explores a variety of case studies and examples by examining elements of each in different sections of the paper. As I move through the stages of collaboration with indigenous groups, I introduce and revisit instances where these guidelines and principles have come into play in the field. This paper begins with a background on existing power dynamics between researchers and indigenous groups, as well as an in-depth explanation of RBR. Following this, I examine the current presentation of indigenous participation and compensation, respectively, and present a guideline for their improvement. The paper concludes with a discussion of indigenous empowerment and a call for research projects relevant to indigenous interests.

Background

A global history of colonialism has created a power dynamic in which indigenous people continue to experience manipulation and exploitation by wealthy, white, and/or Western outsiders. A great deal of imperial success relied on settler colonialism, in which an incoming group moved into an area and displaced the original residents of the land (Pardini & Espinola-Arredondo, 2021). This process very often involved violence, coercion, or both, and created a dangerous precedent for all interactions between outsiders and indigenous groups. Because indigenous groups came to expect violence from colonizers who wanted to appropriate their land, they frequently accepted lower compensation in negotiations to prevent further bloodshed of their people (Pardini & Espinola-Arredondo, 2021). Previous negative experiences with settlers, including but not limited to explicit settler violence, resulted in an extended power dynamic of coercion in contemporary relations. Due to this precedent of violence, researchers can easily manipulate indigenous groups into accepting lower or no compensation for traditional ecological knowledge. Regardless of their intention, researchers carry with them their generational association with violence. According to Koot (2020), during the time he was working in San communities in southern Africa, "it turned out that many of the elders associated [their] presence with apartheid, colonialism, and land theft." (sec 2). While outside parties cannot change this history and association, they should be acutely aware of it and make efforts to shift that perception, rather than unintentionally benefiting from the resulting power dynamic.

Indigenous relationships with outsiders are also characterized by paternalism, in which the outsiders claim to know what is best for the indigenous group, positing them as inferior and incapable (Koot, 2020). This pervasive attitude is used to justify the manipulation and control of indigenous groups. The culture of paternalism is so ingrained that many indigenous community members experience a loss of faith in their own abilities to lead projects and be successful

without white/external assistance. When working alongside the San, Koot recalled how "some people would literally explain to [him] that they could never start their own project without the support of a white man…" (Koot, 2020). Non-governmental organizations (NGOs) doing development work frequently undermine the true capabilities of indigenous communities through their paternalism (Koot, 2016). They posit local groups as unable to take on more significant projects, despite not spending any time in their communities. As external, usually white, agents tout themselves as the paragon of knowledge while infantilizing indigenous people, they reinforce conceptions of white superiority and indigenous inferiority (Koot, 2020). There are several facets of this phenomenon, including history, adaptability, and normalcy. A history of racial subordination in colonial structures results in whiteness which engenders an undeserved authority and undermines local leaders (Koot, 2016).

Paternalism is socially constructed, not based on legitimate inferiority or superiority, and therefore adapts through time to maintain control over the subjugated group (Koot, 2020). The conception of indigeneity as groups who are culturally different subtly reinforces ideas of indigenous inferiority. This supposed difference between cultures grants a benchmark of normalcy to dominant cultures, simultaneously construing indigenous practices such as hunting and gathering as inferior. The same principle applies to communication methods; Western communication styles are treated as the default, delegitimizing local traditions that are often different. For example, the Bushmen of southern Africa frequently draw in the sand to illustrate their stories, and researchers should respect this form of communication on the same level as forms they may be more familiar with, such as written or verbal (Koot, 2016). Indigenous groups have adapted for hundreds or thousands of years, and prescribing inferiority reinforces paternalistic notions (Champagne, 2015). These phenomena require multidimensional views to understand, and this understanding is crucial to positively transforming.

Assumptions about white superiority are often unconscious on both the part of local groups and external white agents. When ignored, these assumptions will, regardless of intention, create an unbalanced power dynamic in which an incoming researcher is granted some level of control over native actors, whether they be subjects or sideline participants. This phenomenon is illustrated by the experience of the aforementioned San people who are indigenous to southern regions of Africa (Koot, 2020). The San have a history of paternalistic relationships, including the former presence of white colonial 'masters,' who controlled their labor and made decisions about the personal lives of San people, considering them a "child race [that] could not handle the responsibility of employment or money… [and] needed disciplining" (Suzman, 2000). These white authority figures were called baas, and Koot, a white man, quickly and unintentionally stepped into a baas role. While working in this community, Koot realized he had been underestimating the capabilities of the San and prioritizing his own judgment on projects (Koot, 2020). Beliefs in paternalistic notions and white superiority are often intertwined and bilateral, introduced by white outsiders and indoctrinated into indigenous societies. The unconscious nature of these notions makes it extremely important for researchers to be both aware of and combating this dynamic in every stage of their work.

When external researchers are in complete control over the shape and execution of research, indigenous people are excluded from contributing their intellect, knowledge, and perspectives (Champagne, 2015). In Namibia, Koot witnessed tourism and development industries that claimed to use bottom-up strategies, marketing their work as empowering for the local people

(Koot, 2020). Meanwhile, upper management made all the decisions, rather than employing participatory methods that included the expertise of the local people, or listening to the ideas and plans of the groups they claimed to empower. The continuous refusal to listen to indigenous stakeholders perpetuates the belief that local knowledge and participation is worth less than that of outsiders, contributing to paternalism and maintaining harmful colonial legacies (Koot, 2020). External players cause damage in other, often more tangible ways as well. In order to understand the interconnected elements of loss, Gregory et al. (2020) worked with two Dene First Nations communities that lost a large parcel of land to the Canadian government in the 1950s. Tribe members not only lost access to their land-based livelihoods, but experienced loss along multiple dimensions. Consider a single facet of this land loss: losing the ability to hunt moose. The community loses an important winter food source, meaningful family time, opportunities for elders to teach and share with younger community members, the ability to provide for one's family and community, identity in traditional ways of being, and connection to place (Gregory et al., 2020). The negative impacts that outsider interaction can have on indigenous groups are innumerable and frequently invisible to non-members. This is why it is crucial to consult with indigenous leadership and local experts before taking any action that will affect their community, so that stakeholders can bring potential negative impacts to light and discuss how to mitigate the damage or avoid it entirely.

Rights to the Benefits of Research

Kothari introduced the concept of Rights to the Benefits of Research (RBR) in a publication in 1997 (Fundación Indígena & Kothari, 1997). RBR provides a meaningful and effective guideline for ethical interactions with indigenous groups who are involved in or tangential to research. In this paper, I use RBR as a framework through which to analyze past relations between outsider groups and indigenous ones and to set up positive and equitable future relationships between these parties.

Rights to the Benefits of Research has four main elements, detailing the rights indigenous communities should have access to in an external research relationship:

- Participation throughout the process of research.
- Acknowledgement of ownership of knowledge.
- Ability to use and manage the results of research.
- Meaningful benefits from research.

These elements will be explored in further detail in the following sections. They are underscored by two key components: ethical guidelines and indigenous empowerment. Firstly, Kothari describes several practices the researching body should follow when doing research in or around indigenous communities. Before field work begins, it is important to consider how the research will or will not be relevant to communities, and whether it will benefit indigenous stakeholders. Ethical concerns should be at the forefront of research proposal considerations as well. Compensation should not be exclusive to commercial research but be a required part of all research. Furthermore, distinct ethical guidelines should be developed in tandem with culture-specific practices and customs on a case-by-case basis, using a cross-disciplinary approach.

Second, Kothari emphasizes that indigenous empowerment should be prioritized and promoted throughout the research process. As previously discussed, the preexisting power dynamic between indigenous groups and outside researchers is unavoidable and pervasive, so it is important to take measures to not only neutralize this but also uplift indigenous autonomy. Language barriers, lack of legal literacy, and other obstacles may present themselves, and it is the obligation of the researching body to tackle these or involve NGOs or advocacy groups specialized in such areas. The researching body must make efforts to make all information available and accessible, which may require translation. Researchers should also work with indigenous groups to equip them for potential future negotiations and collaborations. Additionally, it benefits both parties to be transparent about the indigenous groups' own ability to organize and advocate for their interests.

Indigenous Participation in Research

Indigenous communities should have the opportunity to participate in all aspects of the research process involving their people, culture, and/or land. This requires the outsider party to treat indigenous collaborators, as well as their culture, history, and personhood, with respect. Part of respecting and partnering with groups is seeking a certain level of cultural understanding and historical knowledge before entering an indigenous space. It is the researching body's ethical and practical obligation to study their government, culture, history, and contemporary issues beforehand, in order to enter the situation with background knowledge and cultural literacy. As Champagne (2015) put it:

> *Researchers should extend their understanding of Indigenous peoples and issues beyond the legal requirements or understandings of nation-states, and recognize the continuing cultural, social, and political—if not legal—roles that Indigenous peoples continue to play within their traditional home environments. (p. 69)*

Indigenous groups often have their own communication methods and processes; a mutual sense of respect is created when outsiders take this into consideration. Failure to learn about indigenous practices ahead of research ultimately disrespects the community and debilitates the research. When the Bolivian government attempted to consult the local Weenhayek people about a natural gas exploitation project in their native land, the government agents left out important information about the project and rushed the Weenhayek deliberation process (Bebbington, 2012). Weenhayek decision-making is described as "slow but sure" (Bebbington, 2012, p. 60) and needed a significant amount of time for traditional methods. The Bolivian government did not investigate or respect this, failing to understand and facilitate Weenhayek culture. This rendered the consultation process ineffective as the government functionally excluded the Weenhayek from the discussion. Alternatively, recognizing cultural practices can engender mutual respect and trust, thus benefiting both parties as well as the research intent. In the Philippines, it is occasionally appropriate to make an offering of chicken, pig, or other resource to some indigenous communities, or practice certain rituals to receive admission to ancestral lands (Dapar & Alejandro, 2020). When researchers are intentional about following cultural guidelines such as these, a positive partnership can flourish.

After researchers meet the prerequisites of cultural understanding on their own time, the next step is to seek front-end indigenous perspectives. Consultation with indigenous experts and

stakeholders should shape the methodology and goals for the research before it begins. There are existing avenues that are intended to protect subjects of research, such as the Institutional Review Board (IRB). IRBs exist to review methods, ethics, and human rights concerns of research projects, usually functioning as part of a university (Champagne, 2015). Unfortunately, technical loopholes allow researchers to acquire informal consent from indigenous individuals rather than applying for institutional review, cutting IRBs out of the picture. Some indigenous nations and NGOs have been creating their own organizations to review and approve research proposals (Champagne, 2015). Many United States tribal nations have their own institutional review boards. However, creating an IRB, or even being consulted about research protections, is more challenging for indigenous groups who are not recognized by the government of the surrounding country.

Researchers should not seek to avoid IRB approval and should additionally consult indigenous leaders and experts about the plans and protections for the intended research. This conversation must be mindful of the previously discussed power dynamics, and regard indigenous leadership as the party in power as researchers request permissions. While some international documents, such as the Nagoya Protocol, attempt to delineate indigenous rights to benefit sharing and prior informed consent, the language used is susceptible to loopholes (Kim, 2018). While the Nagoya Protocol only encourages benefit sharing, this paper asserts it as the right of the indigenous group to receive equitable benefits in every scenario. Moreover, benefits should not be used as leverage to coerce indigenous people into granting permissions or participating in research. Researchers should avoid skipping key ethical steps such as seeking prior informed consent as well, meaning they need to provide adequate information regarding the nature and purpose of the research in the group's preferred language before consent is given (Kim, 2018).

At this beginning stage of discussion, consultation, and negotiation, researchers need to consider many questions. The most important questions have been compiled here:

- Is the hosting indigenous group in support of the research proposed?
- How can the existing research plan become more relevant to community needs or goals?
- How can the process of research, including the field researchers themselves, be the most culturally appropriate and respectful?
- How can community members/local experts/stakeholders be involved in data collection? In critical analysis of the results?
- How will participants and the community be compensated for housing, participation, labor, guide work, traditional ecological knowledge, results of research, etc.?
- How can the results of the research be most effectively shared and made accessible to the community?

Tribal leadership and communities have the right to accept or reject research proposals. As Champagne argued, "protocols of seeking collective permission and reciprocal benefits should be part of how researchers engage all Indigenous nations" (Champagne, 2015, p. 70). It is also important to acknowledge that the answers to these questions can change, and researchers should anticipate some level of adaptability being required throughout the project (Rodrigues et al.,

2020). Only after all these points have been discussed should researchers move forward, incorporating the collaborative efforts into their methods and direction.

CASE STUDIES

Including indigenous experts and community members in the data collection process is of great importance, both for increased accuracy and indigenous empowerment. In a study aiming to document traditional medicinal plant knowledge in rural Quichua speaking communities of Ecuador, villages chose one male and one female representative to collaborate directly with the partnering organization (Fundación Indígena & Kothari, 1997). These volunteers were given training, a questionnaire with which to interview knowledgeable community members, and compensation for their time and efforts. They met weekly to touch base and shape the continuing direction of the project. Part of accessibility in RBR is actually allowing participants to direct the purpose of the research to be relevant and meaningful to the communities involved.

Shaman Labs flew out the Vice Dean of Research from the Guinean government university to their facilities in California, creating a space for dialogue on future collaboration, including how that could benefit Guinean communities and institutions (Carlson et al., 2001). Further discussions took place between other stakeholders and the company before the Guinean party extended a formal invitation to Shaman Labs to move forward with their work. The company held workshops detailing their goals; specifically seeking botanical solutions to Type 2 diabetes, a disease which was increasing in local Guinean communities. Throughout the research process, Shaman Labs provided literature in English and Guinean French, trained Guinean scientists and traditional healers in field research techniques, and included community members and local healers and officials in discussions (Carlson et al., 2001). Leaders reiterated goals and reaffirmed benefit sharing before each expedition and collaboration.

Several First Nations groups collaborated with researchers on marine conservation goals ideated by the indigenous groups themselves (Eckert et al., 2018). The project leaders "provided opportunities for participants to expand on their ideas for actions and approaches that would alleviate the problems and bring them hope, both for their culture and for local resources" (Eckert et al., 2018, p. 23).

When working with the Pamunkey tribe in Virginia on a project about sea level rise, researchers used a participatory mapping process that focused on the relationship between the Pamunkey River and the eponymous tribe (Hutton & Allen, 2020). Pamunkey participants identified the features needing protection and set the routes used to tour marshes with researchers, explaining relevant traditional ecological knowledge. This endemic information and perspective, paired with technical environmental data, helped create a more complete picture on which to base conservation priorities. Some of the proposed locations for shoreline restoration threatened areas traditionally used by the Pamunkey to dig for clay, an issue that may have gone overlooked were the tribal members not an active part of the restoration project (Hutton & Allen, 2020). Such an example shows how important it is to consider multifaceted indigenous concerns within project priorities. Pamunkey stakeholders also informed the project's resilience matrix that was used to facilitate action, partnerships, and conversations in response to sea level rise and other environmental concerns.

This involvement should continue into the analysis of results, as native people are ultimately the most knowledgeable about their own culture, land, and practices. Indigenous interpretation and critique will better shape discussion and accuracy of conclusions (Fundación Indígena & Kothari, 1997). The aforementioned collaboration with First Nations groups directly sought indigenous stakeholder perspectives in order to interpret their results and shape the direction of publications (Eckert et al., 2018). When working with the Bolivian government on receiving compensation for impacts of natural gas extraction, a Weenhayek organization created their own tool to analyze different levels and types of impact they would experience, and additionally recommended activities to avoid or mitigate these impacts (Bebbington, 2012). A Pamunkey representative served as a consultant to the partnering research university, making sure survey questions were appropriate, facilitating the community aspects of collecting data, and verifying the interpretation of the results (Hutton & Allen, 2020). All these case studies showcase appropriate ways to involve indigenous people in the methods and process of research, to the benefit of both parties.

It is crucial to make research accessible to the proximal communities, what Kothari (1997) calls "rights to the products… of research" (p. 128). Present research involving indigenous communities is published in academic settings and is rarely made accessible to the involved community members (Champagne, 2015). Stakeholders and researchers should determine a plan for sharing and interpreting the research for the community, reciprocating access to indigenous knowledge with access to the completed research, as well as "assistance or advice about how to use the research and knowledge in ways that will benefit community health and well-being" (Champagne, 2015, p. 78). Some of our case studies provide further examples of this. The Pamunkey Coastal Adaptation Survey App was programmed to allow participants, including indigenous community members, to spatially indicate areas of concern on maps of sea level rise in their region by drawing points, lines, or polygons (Hutton & Allen, 2020). The app was easily available and made spatial information understandable and accessible, and included the Pamunkey informed maps. It combined these maps with authoritative sources, syncretizing multiple sources of information to include traditional knowledge. Ecuadorian campesinos who collaborated with Kothari on the documentation of their traditional ecological knowledge received copies of the final book translated into their native Quichua tongue (Fundación Indígena & Kothari, 1997). Copies were distributed amongst villages and local schools, and the partnering local organization planted medicinal plant gardens in their compound. This complemented the book and made the information accessible in a different and practical way.

Compensating Indigenous People for Research

Indigenous people have and will continue to contribute to academia, medicine, and other fields with their knowledge and deserve compensation. Past discussions of compensation revolved around intellectual property rights and the pharmacological industry. This paper aims to move past these ideas and expand the principle of compensation. Intellectual property rights, or IPR, have been significantly advocated for in the mainstream literature on compensation. While indigenous intellectual property has been exploited by external parties, IPR is in most ways meaningless to these communities and stakeholders. IPR "seeks compensation for or protection from commercial exploitation" (p. 128), despite commercial exploitation being a threat brought about by outside actors in the first place (Fundación Indígena & Kothari, 1997). Essentially, outside actors offer IPR as a solution to the problem of exploitation they introduced. The end

result is closer to a net neutral than any true benefit for the indigenous community, and still requires time and effort on behalf of the indigenous group to defend those IPRs if they are threatened. Furthermore, actual returns from IPR are contingent upon unreliable commercial success, and still may not become a meaningful contribution to the community involved. Significant legal activity is required to obtain IPR, and even more so is necessary to invoke these rights when they are infringed upon (Fundación Indígena & Kothari, 1997). Intellectual property rights, while perhaps to be sought in addition to other more meaningful compensation, should never be considered as part of compensation.

Authorship is another intangible in the question of compensation. Though it should be tangential to compensation rather than in the category itself, authorship should be promoted for the sake of protecting indigenous intellectual property. Indigenous people have extremely strong ties to their land and cultural practices that make up their ecological knowledge, so there is no question of their true authorship, which deserves academic acknowledgement (Fundación Indígena & Kothari, 1997). Crediting indigenous authors in publications also serves as a written record of intellectual property, which can be used in future defense or disputes about intellectual property theft.

While it is a common scenario that companies exploit traditional ecological knowledge for commercial pharmaceutical profit, financial gains are not always the outcome of medicinal research. Researchers are the ones who should be accountable for compensation, rather than shifting the impetus onto future financial success (Fundación Indígena & Kothari, 1997). While they may not have monetary goals in mind, researchers are likely to improve their academic or professional status through indigenous-related projects and publications. Therefore, compensation matters in every case in which an external player seeks to benefit from indigenous existence.

Compensation will likely look different on a case-by-case basis and should be jointly determined by both parties at the time of initial consultation, and again throughout or at the completion of the project. When working with *quilombola* communities in Brazil, Rodrigues et al. (2020) noted that “at the beginning of this project, local communities did not discuss the need for community partners to receive financial compensation for their work, but as the project progressed, they realized that budget forecasting was needed for this hourly compensation” (p. 6). To avoid situations where shifting project expectations and goals result in disproportionate compensation for time and work invested, the matter should be revisited and reconfirmed by both parties at the end of the project, or whenever these shifts may occur. Compensation should be based on what an indigenous group decides will be beneficial and meaningful to them (Fundación Indígena & Kothari, 1997). Rights to the products of research, including accessibility and provision, should be a part of this discussion, as detailed in the previous section. Historically, indigenous groups who contributed to or were impacted by research received nothing. Even as compensation becomes more common, players in power still make decisions without regard to indigenous parties. In the final negotiations between the Weenhayek and the Bolivian government, the social and cultural impacts the project had on the Weenhayek people were largely ignored by government representatives (Bebbington, 2012). Weenhayek representative groups argued that the government proposal failed to accurately recognize their territory, excluding a majority of the land from compensation negotiations. The final settlement was moved behind closed doors, without the participation or knowledge of Weenhayek representatives and many local leaders.

Compensation can be directly or indirectly monetary. Compensation for expenses incurred by participation in research, such as transportation, lodging, and other operating costs, should be expected and not considered part of benefits (Carlson et al., 2001). The Guineans participating in medicinal plant research with Shaman Labs were compensated at multiple levels. Immediate benefits included equal daily wages for consultants, including traditional healers, community members, and scientists. Additionally, all parties received financial benefit from the provision of dried plant materials for research. With consideration for the long term, Shaman Labs developed a plan ahead of time for the potential scenario that a Guinean plant is discovered to be commercially viable. Half the benefits will go to the government specifically for conservation, and half will be distributed among the various participating communities (Carlson et al., 2001). This provides an effective model for both short- and long-term compensation and benefit sharing, featuring the use of preemptive decision making regarding future profits. Posey (1990) advocates for the use of "eco-ethno ethics" (p. 15), which would include a contract guaranteeing percentages for the involved indigenous group. This includes money from the research, commercialization of findings, or any media appearances such as documentary work (Posey, 1990).

Some authors argue that as a capitalistic reward system, monetary compensation is antithetical to the foundation of indigenous societies (Trotti, 2001). Taking this into consideration, compensation may take alternative forms, such as investment in projects or organizations relevant to the needs and goals of the indigenous community. Some indigenous groups in the US have begun creating nonprofits in order to purchase sacred or otherwise culturally significant land and designate it as a conservancy, thus protecting it from unpermitted archaeological activities and maintaining its availability for ceremonial use (Champagne, 2015). Researchers could help restore ownership of traditional lands back to indigenous groups, whether by donation of land, money to appropriate groups, or even collaboration in organizing this type of NGO. While many US tribal nations have their own IRBs, researchers could participate in setting up IRBs in communities or countries where that would be appropriate. Because indigenous governments are rarely formally recognized, external help could be very valuable in navigating the legal aspects of forming an IRB that has tangible authority. The needs and goals of indigenous communities will vary, but researchers should take advantage of the potential to leverage external resources and status in their favor. External parties may have negotiating power, legal accessibilities, or other benefits of their privileged status that can be used for the good of their partnering communities.

External players have utilized alternative compensation methods in the past. For example, in Kothari's collaboration with the Ecuadorian campesinos, they provided copies of the final book to the people who made the research possible (Fundación Indígena & Kothari, 1997). Additionally, proceeds from the sale of the book went towards a fund set up for future local research, directed by the project participants. In a situation of retroactive negotiation, a pharmaceutical company was exposed for profiting off a chemical found in a type of cactus used by the San of Southern Africa for hundreds of years (Kim, 2018). External NGOs helped the San form the South Africa San Council, a body that was able to enter negotiations with the pharmaceutical company and secure royalty payments. These payments go to the San Hoodia Benefit Sharing Trust, which is used to improve the living standards and overall well-being of the San. The concept of Common Heritage of Mankind (CHOM) promotes principles of benefit sharing, peace, international cooperation, and non-appropriation of global resources (Trotti,

2001). Trotti (2001) uses the ideas behind CHOM to form guidelines for compensating indigenous medicinal knowledge. His framework requires proceed sharing that funds aid and cultural and knowledge preservation programs. He also specifies that aid should go directly to indigenous communities rather than country governments.

The category and shape of compensation provided should be based on the needs and priorities of indigenous communities involved in the research. The aforementioned examples of both monetary and alternative compensation forms are intended to serve as reference for future discussions and projects. Effective benefit sharing may require some creativity, but it is a necessary part of any research endeavor.

Empowerment and Relevancy

Beyond the ethical importance of participation and compensation, indigenous groups can benefit from a multifaceted approach to empowerment, knowledge preservation, and relevancy of future research. Empowerment was a key part of Kothari's original RBR framework, in which indigenous people should feel empowered to negotiate and advocate for meaningful, beneficial, and equitable compensation. Empowerment cannot be prescribed, as by its very nature it means a person has to feel capable in their own abilities. However, actions of researchers can have a significant impact on creating the conditions for indigenous empowerment to flourish.

Indigenous authorship, as discussed in the previous section, may promote indigenous pride in their culture, knowledge, and identity, a phenomenon referred to by some indigenous leaders as *revalorización* (Fundación Indígena & Kothari, 1997). Sales of the book of campesino traditional medicinal plant knowledge in Ecuador funded a grassroots foundation created by the campesino participants. This foundation was intended to promote indigenous involvement in recording oral knowledge and culture, focused on conservation and *revalorización*, at the impetus of the local people (Fundación Indígena & Kothari, 1997). Through the original project, participants learned from their community, and were introduced to the process of research and their own local capacity for it. Additionally, the community is now empowered to negotiate with potential future outsiders.

One of many reasons why indigenous involvement and empowerment in research is so valuable is the preservation of their innovation systems. Indigenous groups have been sustaining their cultures for hundreds and sometimes thousands of years, and with that time span comes a unique process of adapting traditional ways of being to new realities. It is this system of innovation of traditional knowledge that is more difficult to preserve than a snapshot of the knowledge at one place in time (Fundación Indígena & Kothari, 1997). When groups are empowered in their capability for research, they can expand on old ways of conserving their knowledge, and continue this process by creating newer, adaptive methods. Trotti (2001) proposes both *ex situ* and *in situ* preservation methods should be utilized for indigenous knowledge. *Ex situ* refers to written records, cataloging knowledge and its cultural elements, and other practices that externalize the process of preservation. As for *in situ* methodology, the Fundación Sabiduría Indígena indicates that "ultimately, it is not so much indigenous knowledge that needs to be preserved, but rather the system of innovation that has generated it and continues to" (Fundación Indígena & Kothari, 1997, p. 135).

RBR also includes relevancy of research in its ethical guidelines, asking researchers to consider how their work matters to the communities involved and whether it will benefit indigenous stakeholders (Fundación Indígena & Kothari, 1997). In his book, *Custer Died for Your Sins: An Indian Manifesto*, Deloria (1969) delivered a significant criticism of academic anthropologists' involvement in research in Indian country. He called out the lack of consideration for indigenous relevancy, arguing that researchers prioritized benefiting their own theories and careers, rather than focus on issues that mattered to the indigenous people being studied. Posey (1990) reiterates this sentiment, saying "It is time that science became more responsive to social needs and that scientists realize that 'just doing science' is an inadequate justification for infringing upon the privacy of indigenous societies" (p. 15).

CASE STUDIES

Once again, I have compiled several case studies demonstrating the value of pursuing research that is relevant to the involved communities, including both previously referenced cases as well as new ones.

When Shaman Labs was working with traditional Guinean healers and communities, the participants were excited about contributing to the research because it focused on Type 2 diabetes, a disease that was becoming increasingly prevalent in Guinean people. Finding a botanical solution to Type 2 diabetes was relevant and important to the Guineans (Carlson et al., 2001).

First Nations people approached researchers through the Central Coast Indigenous Research Alliance to collaborate on research focused on indigenous knowledge in the context of marine conservation (Eckert et al., 2018). The publishing authors of the study said that "[their] role as researchers was to accomplish the goals identified by partnering Nations." (Eckert et al., 2018, p. 23). While it may not often be the case that researchers are approached by an indigenous group, they are more than capable to seek out indigenous groups who likely have goals and concerns they would be interested in jointly pursuing.

UIMQRoo, an organization that does intercultural education in Mexico, requires students to work on sustainable development projects in rural communities (Burford et al., 2012). The process of project development is described as "a collaborative process in which students, faculty, and community members share their respective experiences and expertise to ensure that the projects address local needs and challenges." (Burford et al., 2012, p. 33). Students have completed projects related to the conservation and promotion of traditional ethnobiological practices, created with the input of the community in order to be more relevant to them.

The conservation of Pamunkey coastline and marshland threatened by sea level rise focused on the specific goals of the Pamunkey people based on their socio-economic and cultural concerns (Hutton & Allen, 2020). The conservation team chose to prioritize preservation goals related to sacred or historic sites, currently used houses and roads, and actively eroding areas. This approach synthesized the needs of the community with conservation objectives.

The research potential and possibilities for indigenous-instigated, -informed, -prioritized and -led projects are endless. When empowerment and relevancy are considered in tandem, both indigenous and academic pursuits should flourish.

Conclusion

Using Kothari's Rights to the Benefits of Research as a framework, I have outlined and supported the necessity of involving indigenous players at every stage of the research process. When beginning a research endeavor that involves indigenous communities, including their people, land, or ecological and cultural knowledge, external players should keep these guidelines at the forefront of their interactions. Researchers should be aware of historical power dynamics and attempt to subvert them; this begins with seeking permissions from indigenous leaders. At this early point, compensation should also be discussed. Community members should also be included in the preliminary stages of shaping the research, and this involvement and prioritization should continue throughout field work in the form of participation and analysis of results. Based on initial conversations about compensation, indigenous stakeholders and collaborators should be appropriately rewarded for their contributions, whether physical or intellectual. Compensation can take monetary or alternative forms based on the desires and needs of the community. Throughout the entire process and relationship between researchers and indigenous communities, values of respect and empowerment should be prioritized.

While I have dedicated this paper to the exploration of RBR concepts in the context of indigenous groups in research, these principles can be extended to further human subject or human adjacent field work. Researchers, especially with institutional support and financial backing, can occupy positions of power in their own countries, and even their own communities. Stratification along education level, racial and ethnic background, financial status, etc., is ever present and warrants intentional mitigation. In addition to existing ethics considerations, participation and compensation of stakeholders and community members should become an indispensable part of any human related or adjacent research.

This paper is entirely a review of existing literature and could be expanded by original research. It would be interesting to conduct interviews with indigenous people in different regions and who hold different roles within their communities. The prioritization of an equal partnership with indigenous communities is crucial, and yet those voices are lacking in this body of work. While I currently lack the resources to pursue this avenue, seeking indigenous perspectives on participation and compensation is a clear and necessary next step in this area of interest.

The continuation and adoption of this research in field work ought to be wholehearted and imminent. The fact of indigenous participation and compensation should not exist just at the unreliable moral impetus of the academic in the field but must rather be taken as a principal tenet of all research pursuits involving indigenous people and communities.

Acknowledgements

This work would not have been possible without the guidance and support of Dr. Nishanta Rajakaruna.

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