

Waldemiro Francisco Sorte Junior

Traditional knowledge for promotion of socioeconomic inclusion of local communities

Uso do conhecimento tradicional para promover a inclusão socioeconômica de comunidades locais

ABSTRACT

This paper discusses the key role played by public research institutes for promoting socioeconomic inclusion of local communities based on traditional knowledge and traditional medicine. Nongovernmental organizations and cooperatives have had an important role in raising financial resources, being involved with advocacy of local communities and advancing legislation changes. But strict best manufacturing practices regulations imposed by the Brazilian National Health Surveillance Agency on the requirements for approval and commercialization of drugs based on herbal medicine products call for the involvement of strong public research institutes capable of supporting community-based pharmacies. Thus, public research institutes are pivotal as they can conduct scientific research studies to evidence the efficacy of herbal medicine products and help building the capacity of local communities to comply with current regulations.

DESCRIPTORS: Plants, Medicinal. Medicine, Traditional. Ethnopharmacology. Academies and Institutes.

RESUMO

O artigo mostra o papel desempenhado por institutos públicos de pesquisa no Brasil na promoção da inclusão socioeconômica de comunidades locais por meio do uso do conhecimento tradicional e da medicina popular. Organizações não-governamentais e cooperativas são importantes para angariar recursos, defender os interesses das comunidades locais e influenciar mudanças no ordenamento jurídico. Entretanto, exigências de cunho legal relacionadas às Boas Práticas de Fabricação e à necessidade de comprovação da eficácia de medicamentos, impostas pela Agência Nacional de Vigilância Sanitária, tendem a demandar a intervenção de um instituto público de pesquisa capaz de auxiliar tais comunidades na aprovação e comercialização de medicamentos produzidos a partir de plantas medicinais. Assim, institutos públicos de pesquisa são essenciais para realizar estudos científicos que comprovem a eficácia das plantas medicinais e para auxiliar as comunidades locais a criarem a infraestrutura necessária para atender às exigências da Agência quanto a Boas Práticas de Fabricação.

DESCRITORES: Plantas Medicinais. Medicina Tradicional. Etnofarmacologia. Academias e Institutos.

International Policy Center for Inclusive Growth. Poverty Practice, Bureau for Development Policy. United Nations Development Programme. Brasília, DF, Brasil

Correspondence:

Waldemiro Francisco Sorte Junior International Policy Centre for Inclusive Growth Poverty Practice, Bureau for Development Policy United Nations Development Programme Esplanada dos Ministérios, Bloco O, 7º andar 70052-900 Brasília, DF, Brasil E-mail: wald_russo@yahoo.com

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INTRODUCTION

Traditional medicine deserves closer attention because it may be an effective complementary treatment or, in some cases, even an alternative to western medicine. Traditional medicine has been practiced for generations in countries such as China and India, and although sometimes lacking scientific validation, its effectiveness has been assessed and accepted in a great number of patients. China, for instance, reported over 900,000 health centers and hospitals offering traditional medicine care in 2006.⁵ Furthermore, promotion of traditional medicine may be a way to support the socioeconomic inclusion of local communities and indigenous groups, which are the main holders of traditional knowledge.

The present study aimed to discuss the key role played by public research institutes for promoting socioeconomic inclusion of local communities based on traditional knowledge and traditional medicine. The conclusions are drawn from a comparison of two different initiatives which shows that the interaction between local communities and a public research institute produced synergic outcomes and greater benefits to the communities. The paper is divided into three sections. Section one presents a brief discussion on state-society synergy. Section two is a case study and the last section briefly discusses the main findings of the case study.

STATE-SOCIETY SYNERGY

Evans² highlights the pivotal role of ties that connect “citizens and public officials across the public-private divide”, a phenomenon that he calls embeddedness. These ties blur the boundaries between the public and private spheres, creating conditions for synergic outcomes that emerge from the interactions between the activities of social groups and public institutes.

Local communities are dependable on the government to “supply them with inputs that they cannot produce on their own,” but they may contribute with “local knowledge and experience that would be prohibitively costly for outsiders to acquire.”² Close interactions between the public sector and civil society, therefore, improve public policies outcomes by providing public officials with relevant information on the demands and main challenges hindering local development.

There are several implications of the debate of state-society synergies on the issue of socioeconomic inclusion of traditional knowledge of communities. In fact, the collaboration between the public sector and these communities may bring benefits to all parties involved and generate positive externalities for the entire society.

Public research institutes can conduct scientific analysis of traditional knowledge to evidence its effectiveness. They can also assist community-based pharmacies in complying with *Agência Nacional de Vigilância Sanitária*'s (ANVISA— the Brazilian National Health Surveillance Agency) strict regulations on best manufacturing practices (BMP), quality standards, and safety and efficacy requirements for the approval of herbal medicine products. This will allow these pharmacies to sell their products in the formal market or to be integrated into the supply chain of larger companies of pharmaceutical or cosmetic products.

Additionally, several indigenous tribes, *Quilombola* maroon communities and other groups in Brazil have a vast traditional knowledge on the country's biodiversity and herbal medicine products that could be used to improve the Brazilian population's health. The public sector may, thus, benefit from the traditional knowledge accumulated by these groups over a long time.

Although traditional knowledge has a potentially significant value for commercial use, it is necessary to find the best way to guarantee an equitable process of benefit-sharing between the private sector and traditional knowledge holders.^{3,4} This process of benefit-sharing negotiation adds yet another rationale for a closer interaction between the public sector and local communities. The intervention of public institutes may ensure a fair distribution of benefits in their business contracts, as illustrated in the case study.^a

CASE STUDY

The case study is based on a comparative analysis of two initiatives from different regions in Brazil. The first one involves several community groups living in four Brazilian states (Minas Gerais, Goiás, Tocantins and Maranhão) in a tropical savanna ecoregion called *Cerrado*. These groups are represented by a social network called *Articulação Pacari*. The second initiative involves riverside communities, *Quilombola* maroon groups and indigenous tribes living in the state of Amapá in the Amazon rainforest, which are supported by a local state-owned research institute called *Instituto de Pesquisas Científicas e Tecnológicas do Estado do Amapá* (IEPA – Institute for Scientific and Technological Research of the State of Amapá).

For the case study, interviews were conducted with representatives of *Articulação Pacari* and of a non-governmental organization called *Instituto Sociedade, População e Natureza* (ISPN – Institute for Society,

^a Access and Benefit Sharing can be an issue in these contracts due to information asymmetry. It was argued in interviews that local communities often lack a clear view of the market value of their traditional knowledge. As a result, they sometimes exchange an invaluable knowledge that can generate significant returns for a private firm for a modest immediate gain, such as a small motorboat.

Population and Nature), which provides technical support for several community groups and works towards the conservation of *Cerrado*. The interviews consisted of questions concerning the activities undertaken by *Articulação Pacari* regarding the production of home-made drugs and cosmetic products and its relationship with the Brazilian government. Fieldwork in the IEPA facilities was conducted to examine the initiatives undertaken to facilitate the development of local communities through the use of traditional knowledge.

Articulação Pacari: Home-made drugs in Cerrado

Articulação Pacari is a social network comprising several communities that cultivate herbal medicine products and produce traditional medicine and cosmetic products from *Cerrado* biodiversity. These communities use traditional knowledge passed on across generations and the effectiveness of their care practices is supported by the testimony of people cured.

Articulação Pacari has several small community-based pharmacies called *Farmacinhas do Cerrado* that sell home-made drugs. There are currently 31 *Farmacinhas* that produce 40 types of medicines using 65 different types of native herbal plants from *Cerrado*. These facilities treat approximately 7,300 patients per month.^b Home-made drugs are sold at a low price in the local community. These drugs are not available nationwide as these products are not approved by the ANVISA.

The *Farmacinhas* cannot meet ANVISA BMP, and efficacy and quality requirements. Compliance with ANVISA regulations is a costly process that community-based groups cannot afford.

As a result, *Articulação Pacari* has developed its own standards for ensuring sustainable harvesting and quality control of home-made drug production. A 200-hour course is provided to the local communities and they are trained on the best way to extract herbal plants without harming the environment and how to basically improve their manufacturing process, such as the need to properly weight the material and adopt hygienic practices. Thus, in view of the lack of government support for these community-based initiatives, *Articulação Pacari* has developed a mechanism of self-regulation based on folk-healers' knowledge to establish hygiene and quality standards for home-made drugs.

Articulação Pacari contends that the current Brazilian policy for herbal medicine products is focused mainly on exotic plants. Most herbal plants that are approved by ANVISA are native to other countries and the government has not made any efforts to promote the use of Brazilian native plants. Moreover, it was said in the interviews that ANVISA excessively strict regulations benefit large pharmaceutical companies with plenty of resources

to conduct efficacy studies for their products. Such regulations exclude community-based drug producers and folk-healers. Thus, by focusing on promoting the industrial production of herbal products, the government has completely left aside community-based initiatives.

IEPA: Synergy between a public research institute and local communities

IEPA is a public research institute created in 1993 and has played a significant role in promoting the production of herbal medicine products in Amapá and supporting the inclusion of local communities in this production process. Approximately 60% of raw materials used in the manufacturing of herbal products are supplied by local communities. The remaining 40% is cultivated on an IEPA-owned facility in the municipality of Porto Grande.

IEPA has a team of researchers that conducts experimental studies on the efficacy of herbal medicine products following the World Health Organization (WHO) standards. They have published several studies evidencing the efficacy of many local herbal medicine products and accuracy of local traditional knowledge. Several herbal drugs are produced based on these findings.

One research conducted by IEPA has produced a patented product and a contract for transfer of technology, directly benefiting the local community. The patented product was the *Urucuri* candle, which is an insect repellent made from palm tree. The licensing of this product has yielded royalties for the local community (Women's Association of the Municipality of Mazagão Velho). Moreover, the community was integrated into the supply chain of the licensee to provide raw materials for the production process. It is also interesting to note that the company producing the *Urucuri* candle, L C HAAS, is linked to IEPA's Business Incubator Center. This center was created in 2004 to stimulate entrepreneurship in Amapá and support local cooperatives.

In addition, IEPA has a legal division to ensure that all research involving traditional knowledge, biodiversity and genetic resources complies with Brazilian regulations. This legal division also mediates negotiations between local communities and private businesses to guarantee an equitable benefit-sharing process. In a reported case, IEPA's legal division has mediated a negotiation between the large Brazilian private company Natura and the local community of *Rio Iratapuru* Reserve (municipality of Laranjal do Jari), represented by the Cooperative of Local producers (COMARU), over the *Breu Branco* perfume.

As a result of this negotiation process, a benefit-sharing agreement was signed between the local community and

^b Centro Internacional de Investigaciones para el Desarrollo. Red de Plantas Medicinales de América del Sur. Plantas Medicinales de América del Sur: diálogo de saberes para la sustentabilidad. Montevideo; 2005

Natura and the following benefits were granted to the community: (i) integration of COMARU into the supply chain of Natura's *Breu Branco* perfume; (ii) support by way of new equipment and training of local community members; (iii) access to credit; and (iv) additional orders made to COMARU, i.e., it started supplying other products to Natura, such as copaiba and chestnut oil. Some Brazilian companies such as Natura now acknowledge the importance of integrating local communities into their supply chain, given the expertise of these communities in sustainable harvesting and herbal plant extraction.¹

DISCUSSION

The *Articulação Pacari* and Amapá cases point to the importance of public research institutes such as IEPA for successful socioeconomic inclusion of local communities. Firstly, the institute's intervention was relevant for the negotiations between Natura and COMARU. Secondly, IEPA conducted research on the efficacy of traditional knowledge and provided scientific evidence of the efficacy of locally produced herbal and cosmetic products. Finally, the institute used its business incubator to promote technology transfer of traditional knowledge-based products to benefit local communities.

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