



VOLUME 5 ISSUE 2

The Journal of the

World Universities Forum

Scientific Animations Without Borders

A New Approach to Capture, Preserve and Share
Indigenous Knowledge

JULIA BELLO-BRAVO AND BARRY R. PITTENDRIGH

JOURNAL OF THE WORLD UNIVERSITIES FORUM

<http://ontheuniversity.com/>

First published in 2012 in Champaign, Illinois, USA
by Common Ground Publishing
University of Illinois Research Park
2001 South First St, Suite 202
Champaign, IL 61820 USA

www.CommonGroundPublishing.com

ISSN: 1835-2030

© 2012 (individual papers), the author(s)
© 2012 (selection and editorial matter) Common Ground

All rights reserved. Apart from fair dealing for the purposes of study, research, criticism or review as permitted under the applicable copyright legislation, no part of this work may be reproduced by any process without written permission from the publisher. For permissions and other inquiries, please contact <cg-support@commongroundpublishing.com>.

Journal of the World Universities Forum is a peer-reviewed scholarly journal.

Typeset in CGScholar.
<http://www.commongroundpublishing.com/software/>

Scientific Animations Without Borders: A New Approach to Capture, Preserve and Share Indigenous Knowledge

Julia Bello-Bravo, International Programs and Studies, University of Illinois at Urbana-Champaign, USA
Barry R. Pittendrigh, School of Integrative Biology, University of Illinois at Urbana-Champaign, USA

Abstract: Indigenous knowledge can be defined as a set of perceptions, information and behaviors that guide local community members in terms of their use of natural resources. This knowledge is not static, but evolves in response to changing ecological, economic and sociopolitical circumstances, based on the creativity and innovation of community members and as a result of the influence of other cultures and outside technologies. Capturing, understanding and sharing the complexity of indigenous knowledge among rural communities is crucial to preserve and validate information that has been transmitted in the form of oral history through generations. Making use of state of the art technology, "Scientific Animations Without Borders" (SAWBO) proposes a new approach to capture, preserve and share this knowledge with the rest of the world. The SAWBO program uses short, one to three minute animations showing indigenous practices that have been validated with scientific knowledge. Such animations can be viewed on the Internet or with video capable cell-phones. We argue that this approach has the potential not only to keep indigenous knowledge alive but also to share this knowledge across geopolitical, cultural and linguistic boundaries.

Keywords: Scientific Animations Without Borders, Indigenous Knowledge, Low Literate Learners, Language Barriers

INTRODUCTION

For most scholars, the development of indigenous knowledge (also often referred to as "local" knowledge) involves a dynamic interaction between local inhabitants and their environment. This knowledge allows people to find solutions in different areas that are useful to their livelihoods. Sconnes and Thompson (1994), for example, defined indigenous knowledge as a way of thinking based on a set of practices, skills and activities developed by communities with shared histories and experiences. In a similar vein, Agrawal (1995 a) referred to indigenous knowledge as associated with a specific geographical space, typically over a long period of time. The holders and transmitters of such knowledge are usually referred to as "indigenous people": i.e., the original inhabitants of a region (Godoy et al., 2005). With indigenous knowledge, individual and communal experiences are tested empirically, proven over generations and adapted to local culture (Netherlands Organization for International Cooperation in Higher Education, 2003).

The acquisition and transmission of indigenous knowledge occurs in a very structured way. First, the involvement of the community and family is crucial in the transmission. Parents and grandparents teach their children through observation, collection and practical uses of the knowledge. Long-term investment in the acquisition of knowledge is part of the preservation process. On the other hand, scientific knowledge is taught and learned through classes, books

and other formal media. Therefore, the investment is more short term. Local knowledge contains the insights of ancestral knowledge, the community and individual experience, the knowledge of other local people and often, imbedded scientific knowledge (Ellen, 2000; Dhillion and Gustad, 2004).

Many people view indigenous knowledge as backward, applicable only to a specific local population and environment from the past. For some, by contrast with scientific knowledge, indigenous knowledge appears informal, based on the unmodified experiences of an individual or a limited group. The discourse of colonialism contributed to such perspectives. According to Shizha (2005, 66) under colonialism indigenous knowledge was “discounted as invalid and irrelevant in contemporary Africa.” Others such as Hooker (1996) argued that the main idea behind modernity or enlightenment was to discontinue the past through the process of dismissing old knowledge and promoting innovation. As a result of these biases, accessing indigenous knowledge has not been a priority for Western societies, which largely have remained skeptical about the value of such information (Anaya, 1996).

However, recently interest in indigenous peoples and knowledge has grown (Laird 2002). Writers such as Marglin (1996) have described how indigenous knowledge, rather than being backward or locale specific, may represent the seeds of rational responses and effective solutions to problems in many contexts. International development organizations have played an important role in stimulating interest in this alternative view of indigenous knowledge by finding different ways to reach indigenous people and preserve their local knowledge. Moreover, findings by groups like UNEP (1998c) have revealed that in many circles, local people consider indigenous knowledge to be of equal or greater value than scientific knowledge.

Despite these developments, for mainstream society indigenous knowledge is important only if it can be recast in scientific terms (Scott 1998). This may be a long and complicated process. However, there are a large number of people who could benefit from the sharing of indigenous knowledge. Such knowledge could provide the basis for innovation in communities beyond the place of origin of the knowledge. One key problem is developing a vehicle to share this knowledge. To optimize the impact of the sharing of indigenous knowledge, this sharing must be inclusive. In particular, methods to provide access to indigenous knowledge for millions of low-literate learners, mostly residing in rural areas, are essential. Moving in this direction implies an acceptance of the notion that traditional or indigenous knowledge is complementary to, not in opposition with, scientific knowledge and scientific research. Such an approach would necessarily move beyond the paradigm where efforts to capture, preserve, maintain and share indigenous knowledge among native people remain within the parameters of the benefits in “terms of trade” (Coombe 1998). An alternative view of sharing indigenous knowledge is not about corporate bottom lines. It is about development.

Ultimately, we need to develop a new way of conceptualizing this process of sharing. In the past such efforts have been very rare. Writers like Briggs (2005) have even asserted that the effectiveness of local knowledge outside the geographical spaces where it was developed was unlikely to occur. Such points of view have been reflected in a broad spectrum of development experience. For example, the notion of transfer of technology transplanted the “advanced” technologies of the West to the “backward” areas of the world. The transfer of technology was cast as a matter of a one directional flow of human knowledge. This static approach has proven unlikely to achieve positive results for indigenous communities. A key shortcoming of this approach was to bypass local cultural traditions and indigenous knowledge, assuming they were a drag on development rather than an essential building block (Hall 1981, Thrupp 1989B).

Some important steps away from this paradigm were contained in the Farmer-First (Chambers, Pacey, Thrupp, 1989) and Beyond Farmer First (Scoones and Thompson, 1994) approaches. They recognized the value of certain indigenous knowledge. However, the purpose of these aforementioned approaches was to examine and attempt to verify the technical side of indigenous knowledge rather than find ways to spread its insights and potential for practical application

to other parts of the world. Thus, there exists a considerable need to develop a system to share indigenous knowledge internationally in a cost-effective and efficient manner. Two components of this process are needed. First, there is a need for a cost-effective method of capturing such knowledge and making it easily available to other groups around the world in their own languages. Such an approach has been developed for scientific knowledge (Bello-Bravo et al., 2012) and we argue here that this approach is cross-adaptable for indigenous knowledge. Second, when materials have been developed there is a need for a centralized system where materials can be shared online and easily downloaded for use on electronic systems both on and offline (e.g. educational videos that can be viewed on cell phones). Such a system already exists—the Sustainable Development Virtual Knowledge Interface (SusDeViKI; Bello-Bravo et al., 2010), which is an online peer-reviewed system for sharing such materials. Thus, a system exists for sharing such materials worldwide—however, there is a considerable need to develop a system to share indigenous knowledge internationally in a cost-effective and efficient manner.

To this end, we present here a practical model, which we call the Scientific Animations Without Borders (SAWBO) approach. We contend that the failure to transmit and transplant indigenous knowledge across borders is a failure of current information sharing paradigms, not an inherent limitation of the indigenous knowledge itself. We further maintain that there is an urgent need to re-shape this information-sharing paradigm before globalization drives many of the planet’s pockets of indigenous knowledge to extinction. In this paper we will describe how Scientific Animations Without Borders (SAWBO) can play an important role in ensuring the survival and propagation of indigenous knowledge.

Scientific Animations Without Borders

Scientific Animations Without Borders (SAWBO) is a program (Bello-Bravo et al., 2012) for the preservation, protection, conservation, and sharing of indigenous knowledge. Our model involves specific physical techniques, among local and often times low-literate communities in different parts of the world. The model we propose involves the development of animated videos, which can be transmitted through the Internet internationally and then locally via cell phones and other on/off-line ICT devices. These videos will present a given indigenous knowledge-based technique, such that the animations can be voice-overlaid in the language in which they originated, translated into a series of major world languages, from where they can be translated into other local languages around the planet (Figure 1). This process allows for the possibility of the sharing of indigenous knowledge between low-literate groups from different parts of the planet who currently would have little or no access to such knowledge outside their own local populations. We propose that exchanging information between countries as well as regional exchange of knowledge among traditional societies has the potential to assist in sustainable development. Additionally, we believe that the preservation of indigenous knowledge is a valuable resource for the future of local communities.

We operate on the principle that “indigenous wisdom first” represents a valid path for traditional communities to preserve and share their sustainable solutions with other traditional communities. This is far more than a mere expropriation of a technique or technology but rather a different approach to the link between knowledge and development. We hold that indigenous or traditional knowledge occupies a special place in developing countries. It is important not only to offer the recognition to indigenous peoples but also to incorporate indigenous knowledge in an effective system where it can be captured, preserved and shared with other local communities and become a force for development.

Background of SAWBO

SAWBO came into existence because after years of work in rural areas in different West African countries with different cultural groups we repeatedly ran into effective solutions to local problems which at times were at odds with ideas or products imported or “transferred” from Western countries. One of the problems that local communities face is the assumption that scientific knowledge will offer a quick solution to their problems. However, some of these approaches became burdensome and in the long run, unsustainable. For example, the use of insecticides for many subsistence farmers is costly. Moreover, these farmers often do not have access to the proper training on the use of these materials nor the appropriate safety equipment. Ultimately then these compounds can have significant negative effects on human health and the environment. Moreover in the case of West Africa, it is increasingly difficult to determine if the product itself is real or a “fake product” manufactured with inferior ingredients or even lacking the necessary active ingredients needed to control the pests (Dr. Ibrahim Baoua, Personal communications).

At the same time traditional pest control strategies have often been ignored. A good example is ash storage of seeds to prevent insect attack in storage. Ash by itself or mixed with water forming a light paste is a traditional method used for pest control especially for beans and cowpeas in storage (Andhra & Sanjeeva, 2006; Narayanasamy, 2006). These processes are very simple. In one case ash from any source is soaked in water and left in a container for some time. After that, the mixture needs to be filtered and the diluted solution is used to spray in the fields (Mihale et al., 2009). For cowpea seeds, the ash can be mixed with the seeds, and placed in a storage container, to prevent attack by insect pests (Murdock et al., 2003). This traditional sustainable approach is used in areas of some countries like India and on the continent of Africa but is not a common practice among rural communities in other parts of these regions or other areas of the world like Latin America.

Another category of examples of indigenous knowledge are those that have the possibility to spawn the development of products that could be sold locally or internationally. For instance, the shea tree (*Vitellaria paradoxa*) is a tree that grows in West African countries like Burkina Faso, Ghana and Mali. It can be used in a wide range of products. For example, the vegetable oil extracted from the nuts is used in a line of natural cosmetics and for medicinal purposes. Furthermore, the production of shea butter, an activity performed by rural women in West African countries, is a good example of indigenous knowledge. Women have the expertise to collect and process shea nuts (Lewicki, 1974). Women in various rural communities prepare shea butter using different techniques that result in different quality of the product and sometimes in different products. Even though shea butter production, processing and trading is very important for women’s income in West African countries, there is very little information sharing about techniques used in nut processing. Processing methods constitute part of the cultural heritage passed from generation to generation, primarily from mothers to daughters. The preparation varies from country to country and from cultural group to cultural group. For example, roasting the nuts longer than necessary could bring a different color and flavor to the final products. However, the main elements remain the same in the preparation of shea butter; water, firewood and labor.

Chalfin’s (2000) research on female shea traders in northern Ghana proved the buyers’ recognition of shea butter quality. Factors like storage and preparation methods influence the quality of the shea butter. A better quality shea butter has low oil content. SAWBO’s sharing system has the capacity to offer information appropriate for rural women about better indigenous practices for processing and trading shea butter.

Principles for Use of SAWBO Animations for Indigenous Knowledge Sharing

SAWBO advocates a philosophy of participatory knowledge sharing. We draw on the traditions of participatory research. This has been the standard way to involve indigenous communities in a research process (Freire, 1970; Chambers, 2007). In this paradigm, the research process requires a mutual agreement from the local community and the investigator on the questions that are being investigated (Pretty, 1995; Walsh and Mitchell, 2002). SAWBO encourages the participation and engagement of different local communities that share common needs and challenges. The participatory system that we propose includes indigenous solidarity among different communities, maintaining local identities and nurturing traditions.

Our system of knowledge sharing is based on the following principles. The first principle is the promotion of active collaboration among different local groups who share a common culture and language. However, we also propose facilitating this collaboration among groups who do not share a common language, culture, even in the absence of geographical proximity. The second principle is fostering the sharing of knowledge from one community to another, from one country to another and from one cultural group to another. Lastly, the SAWBO approach includes the idea that indigenous knowledge should be protected and controlled by the specific community but like any other knowledge should be shared with the rest of the world in a manner that can benefit both developed and developing countries. That dissemination of information and knowledge should ensure that groups with similar needs and challenges can have access to the opportunity to apply solutions based on indigenous knowledge from other parts of the world (O' Fallon & Deary, 2002).

SAWBO and its Potential use for Indigenous Knowledge

Scientific Animations Without Borders (SAWBO) focuses on the development of short animations about various concepts and techniques that are appropriate for low-literate learners to improve the quality of their lives (Bello-Bravo et al., 2012). These two-minute animations largely address agricultural, health, women's empowerment and environmentally related issues. Voice-overs from any language can be placed on the animations and the animations can be easily shared over the Internet between educational groups as e-mail attachments or shared via online educational systems, such as the website for our project: Sustainable Development Virtual Knowledge Interface (SusDeViKI; Bello-Bravo et al., 2010). Once downloaded onto computers, these animation files can be transferred onto and between cell phones in the regions where they can be used by a target audience. To date, such animations have focused on the use of knowledge that has emerged from the scientific literature through studies in the mainstream scientific community; such as cholera prevention and malaria control techniques.

Here we propose that such animations can combine scientific knowledge and respect indigenous knowledge and local languages that are in danger of extinction in different regions across the planet. Such a sharing system represents a logical starting point with a long-term goal of developing flexible sharing online systems that promote the conservation of local languages through local knowledge.

SAWBO in Action

In the context of SAWBO we have examined some of the indigenous knowledge that exists related to sustainable agriculture, health and women's empowerment in specific communities. Indigenous knowledge can be easily transmitted to other parts of the world to identified places that have similar needs, problems and constraints. We have already applied SAWBO in a number of situations based on needs that range from agriculture to health to women's empowerment.

One example is the use of pest control based on the extract of neem seeds in some parts of West African countries like Mali and Niger. Neem has been used in India for thousands of years and its bioactive properties have been mentioned in ancient texts. Neem has many medicinal uses in humans and can be used as an insecticide. Such knowledge has been brought into the mainstream scientific community and neem has been promoted as an organic insecticide. For SAWBO, a logical starting point is to work with indigenous knowledge that has been validated by the scientific community. Hence we have created an animation based on the pest control using neem seeds. This animation was created first in English and then translated into local/regional languages within West Africa, and in other regions around the world. After the translations were complete, the animations were distributed into several local African languages they were made available for distribution in several West African countries, Mali, Niger, Nigeria, Burkina Faso and Benin. Although neem trees exist across regions of these aforementioned countries, use of neem seed extracts for insect control cannot be considered common knowledge in many communities—thus, there is still a need for educational materials to communicate to local groups an important natural resource that exists in their community to combat a major problem associated with food production.

In this situation it is apparent that local knowledge and practices are not being communicated effectively between other local communities within the same country let alone outside the country. The SAWBO approach to producing educational materials has the potential to circumvent these problems. By using characters that appear somewhat culturally neutral, the SAWBO system can reach a wide variety of populations. This is a far more efficient and cheaper system than the use of live action filming, which involves more complicated technical processes and a different cast and location for each cultural and/or linguistic setting. This system also allows materials to be taken into other regions of the world using translations of the voice overlays and title screen shot of the video into local languages.

SAWBO as a Strategy for the Preservation of Indigenous Knowledge within a Community in their Own Language

Some of the indigenous languages in the world are in danger of extinction because few mechanisms are in place that can capture, preserve and transmit technical information in their own language to the future generations. One of the great advantages of the proposed approach here is that not only indigenous knowledge can be preserved from these communities, but the voice overlays in their own language also provides a mechanism for promoting use of local languages in development practice. Such information can be easily made available to future generations through online and ICT-based mechanisms.

Conclusion

The proposed approach represents a precedent for the use of animated technologies for the preservation of indigenous technologies and languages. It also represents, to the authors' knowledge, the first suggested use of ICT technologies to share indigenous knowledge among low-literate learners who live in highly divergent regions of the world and belong to different language groups, and cultures. Such strategies, if used on a large-scale, could have a dramatic impact on how people in marginalized communities share and obtain knowledge that has been created outside the framework of the mainstream scientific community.

Acknowledgements

SAWBO has been made possible through support provided to the Dry Grains Pulses CRSP by the Office of Agriculture Research and Technology, Bureau of Food Security, in the United

States Agency for International Development, under the terms of grant no. EDH-A-00-07-00 005 (to BP and JB). The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development or the U.S. government. Support for SAWBO has also come from the ADM Institute for the Prevention of Postharvest Loss at the University of Illinois Champaign Urbana (to JB and BP) and C.W. Kearns, C.L. Metcalf and W.P. Flint Endowment Funds (to BRP).

REFERENCES

- Anaya, J. 1996. *Indigenous Peoples in International Law*. Oxford U. Press, New York.
- Andhra Pradesh & B. Sanjeeva Reddy. 2006. Indigenous Technical Knowledge on Pulses Storage and Processing Practices. *Indian Journal of Traditional Knowledge*, 5 (1): 87–94.
- Atte, O. 1992. *Indigenous local knowledge as a key to local level development: Possibilities, constraints, and planning issues*. Ames: Iowa State University.
- Briggs, J. 2005. The use of indigenous knowledge in development: problems and challenges. *Progress in Development Studies*, 5, 99–114.
- Briggs, J. and Sharp J. 2004. Indigenous knowledge and development: a postcolonial caution. *Third World Quarterly*, 25–4.
- Chambers, R. 2007. Participation and Poverty. *Development*, 50, 20–25.
- Cleaver, F. 1999. Paradoxes of participation: questioning participatory approaches to development. *Journal of International Development*, 11, 597–612.
- Dhillion, S., S. and Gustad, G. 2004. Local Management Practices Influence the Viability of the Baobab (*Adansonia digitata*) in different land use types. Cinzana, Mali, *Agriculture Ecosystem and Environment*, 101: 85–103.
- Ellen, R. 2000. Local Knowledge and Sustainable Development in Developing Countries. In Keekik, L., Holland, A and McNeil, D (eds), *Global Sustainable Development in the 21st century*, Edinburg University Press, Edinburgh, pp. 163–186.
- Freire, P. 1970. *Pedagogy of the Oppressed*. Herder and Hered, New York, New York.
- Hobart, M. Editor. 1993. *An anthropological critique of development: The growth of ignorance*. London: Routledge.
- Hooker, R. 1996. *General glossary: Modernity, crisis of modernity*. Available on line: <http://www.wsu.edu:8001/~dee/GLOSSARY/MODERN.HTM>
- Mihale, M. J., Deng, A. L., Selemani, H. O., Mugisha-Kamatenesi, M., Kidukuli, A. W., and J. O. Ogendo. 2009. Use of Indigenous Knowledge in the Management of Field and Storage Pest around Lake Victoria basin in Tanzania. *African Journal Environmental Science and Technology*, 3 (9): 251–259.
- Murdock, L. L., Seck, D., Ntoukam, G., Kitch, L. and R. E. Shade. 2003. Preservation of cowpea grain in sub-Sharan Africa–Bean/Cowpea CRSP contributions. *Field Crops Research*, 83: 169–178.
- Narayanasamy, P. 2006. Traditional Knowledge of Tribals in Crop Protection. *Indian Journal of Traditional Knowledge*, 5 (1): 64–70.
- Netherlands Organization for International Cooperation in Higher Education/Indigenous Knowledge (NUFFIC) 1999. Best practices on indigenous knowledge (<http://www.nuffic.nl/ciran/ikdm/92/column.html>)
- Posey, D. A. 1996. Traditional Resources Rights: International Instruments for Protection and Compensation for Indigenous Peoples and Local Communities. International Union for the Conservation of Nature and Natural Resources.
- Sillitoe, Paul. 1998. The Development of Indigenous Knowledge: A New Applied Anthropology. *Current Anthropology*, 39 (2): 223–252.
- Scones I and Thompson J. 1994. *Beyond farmer first: rural peoples knowledge, agricultural research and extension practice*. Intermediate Technology Publications, London.
- Scott, J. C. 1998. Seeing like a State. *How Certain Schemes to Improve the Human Condition Have Failed*. Yale U. Press.
- Shizha, E. 2005. Reclaiming our memories: The education dilemma in postcolonial *Legitimizing indigenous knowledge in Zimbabwe 35* African school curricula. In A. Abdi & A. Cleghorn (Eds.), *Issues in African Education: Sociological Perspectives* (pp. 6583). New York: Palgrave Macmillan.

Figure Legend

Figure 1. Indigenous knowledge can be shared around different language groups around the world by translating these animations into major world languages that can be retranslated back into other regional languages. Animations can be initially voice overlaid in any starting language, be it a local language or major international language and then translated into other languages. All animations can be taken back into major world languages such that they can be easily translated back into major regional or local languages in other parts of the world. The example major world languages given, for example sake only, include English, French, Spanish and Portuguese. The Spanish version can be easily translated into Quechua (or Quechua can be translated into Spanish) for new voice overlays. Quechua, as shown in the map (http://upload.wikimedia.org/wikipedia/commons/0/0c/Quechuan_langs_map.svg), is spoken in Northwest regions of South America. Other situations may include where an English version videos can be retranslated between a major regional language such as Swahili and then into (or out of) a local language or directly into local language (e.g., Sena). The area where Swahili occurs is given in green on the map of Africa beside the language group (http://upload.wikimedia.org/wikipedia/commons/a/ae/Maeneo_penye_wasemaji_wa_Kis-wahili.png). Indigenous knowledge concepts can then be taken from other major world languages (e.g., Portuguese) to other areas of world (e.g., East Timor and Tetum are given as an example; <http://upload.wikimedia.org/wikipedia/commons/0/0b/LocationEastTimor.svg>). Additionally, animations can be place into a local/regional language (e.g., Hausa) that exists across borders where different major world languages are spoken (e.g., French and English). The map for the location of Nigeria is from http://upload.wikimedia.org/wikipedia/commons/2/2d/Location_Nigeria_AU_Africa.svg and the map for the location of Niger is from http://upload.wikimedia.org/wikipedia/commons/6/68/Location_Niger_AU_Africa.svg.

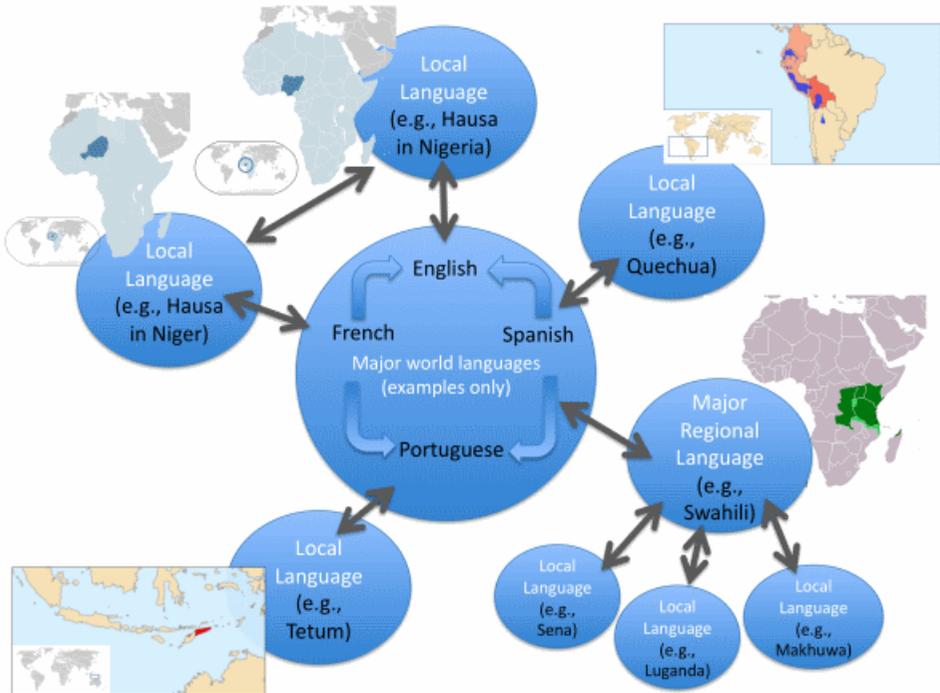


Figure 1

ABOUT THE AUTHORS

Dr. Julia Bello-Bravo: Dr. Bello is part of an international team of educators and scientists focused on developing novel extension strategies for developing nations. Dr. Bello's current work focuses on issues in Niger, Nigeria, Burkina Faso, and Mali as they relate to specialty crops. She also works on issues of how to increase inclusiveness of under-represented people in educational networks and systems.

Prof. Barry R. Pittendrigh: Dr. Pittendrigh is an endowed chair professor at University of Illinois at Urbana-Champaign. He has worked in the areas of international development and extension for the past seven years. His work includes development of novel teaching tools for genomics and more recently he has been working on strategies for deployment of development messages for low literate learners. He is the co-founder of Scientific Animations Without Borders.

The Journal of the World Universities Forum seeks to explore the meaning and purpose of the academy in a time of striking social transformation. The journal brings together university administrators, teachers and researchers to discuss the prospects of the academy and to exemplify or imagine ways in which the university can take a leading and constructive role in the transformations of our times.

Today, universities face significant challenges to their traditional position in society. Contemporary knowledge systems are becoming more distributed and learning ubiquitous. Where does this leave the university—as a historically specialized and privileged place for certain kinds of knowledge and learning, as an institutionally bounded space? What do these changes mean for the mission and structures of the renewed university? What are emerging as principal areas of the academic interest? These are some of the key questions addressed by the journal.

The Journal of the World Universities Forum is a peer-reviewed scholarly journal.

ISSN 1835-2030

