

NEWS ARTICLE

# Toward a post-conflict Colombia: restoring to the future

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At an historic moment, when Colombia is emerging from 60 years of armed conflict, the 7-year-old Colombian Network for Ecological Restoration (Red Colombiana de Restauración Ecológica [REDCRE]) has created four subnational nodes, and is actively developing several more. All of this is taking place in the context of the Ibero-American and Caribbean Society for Ecological Restoration (Sociedad Ibero-Americana y del Caribe de la Restauración Ecológica [SIACRE]). In mid-November 2014, over 200 representatives of government agencies, academia, private enterprises, and nongovernmental organizations (NGOs) from the entire country attended a symposium to launch the Antioquia Province node, and take stock and plan the way forward. There are bright prospects of transdisciplinary and public–private collaborations in Colombia for ecological restoration and restoration of natural capital as part of a strategy to transition smoothly to a post-conflict era. We suggest some goals and guidelines to help move forward an ambitious agenda to mainstream ecological restoration.

**Key words:** networks, public–private partnerships, REDCRE, SIACRE, subnational nodes

## Introduction

After 60 years of internal armed conflict, Colombia is poised to enter a post-conflict era in which ecological restoration could play a significant role. The recovery from such extended internal unrest requires significant investment in the environment. At least 40% of the continental territory is degraded (Etter et al. 2008), and current rates of deforestation are close to 273,000 ha/year (IDEAM 2010). Furthermore, the quality and quantity of ecosystem services have been seriously impaired, as well as the social capital and relationships between communities and natural ecosystems (Murcia et al. 2013). In this context, ecological restoration emerges as a self-evident means of restoring natural and social capital and leveraging change across social and political spectra. Indeed, Colombia has 50 years of practical experience in the ecological restoration of a wide range of ecosystems (Murcia & Guariguata 2014). Grassroots networking at national and international levels can be a highly useful lever as well, provided government plays its role effectively. However, for ecological restoration to be part of the strategy of national recovery, it must be recognized and embraced in socioeconomic and political planning.

Recently, the Colombian government has undertaken various national and international engagements: in December 2012, it ratified the Hyderabad Call of the UN's Convention on Biological Diversity committing to the ambitious goal of restoring 15% of all degraded ecosystems on Earth by 2020 (CBD 2012). Colombia also committed to full collaboration with Objective 3(b)(i) of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES 2013), which calls for thematic assessments on degradation and restoration of land and freshwater systems. It also supports the United

Nations Convention to Combat Desertification (UNCCD)'s new policy to combat land degradation in a much more holistic fashion, including large-scale ecosystem restoration (United Nations Framework Convention on Climate Change 2012). Recent policy includes the National Restoration Plan (Ministerio de Ambiente y Desarrollo Sostenible de Colombia 2012*b*), the 2010–2014 National Development Plan (DNP 2010), and the Manual for Assigning Compensatory Measures (Ministerio de Ambiente y Desarrollo Sostenible de Colombia 2012*a*), all of which include ecological restoration among their goals, and a few state explicit goals in terms of physical area (hectares) and the amount of financial resources to be allocated.

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In this context, there is a clear need to undertake capacity-building and networking in scientific, technical, political, and social aspects of restoration, in order to respond to the growing need and demand. Integration of ecological restoration into landscape-scale planning, and restoration of natural capital also needs to be encouraged and reinforced (see Calle et al. 2012 for an example of this approach). Regarding networking, there is much taking place throughout Latin America. For example, in both Chile and México (Echeverría et al. 2015), national networks of ecological restoration were formed in 2014; *Sociedad Iberoamericana y del Caribe de Restauración Ecológica* (SIACRE) will be hosting its 4th International Conference in Buenos Aires, Argentina, in April 2015. In Colombia, the 7-year-old national network, *Red Colombiana de Restauración Ecológica* (REDCRE), is establishing a series of subnational nodes, all interacting with local communities, relevant institutions, NGOs, and the international community devoted to the science and practice of ecological restoration.

REDCRE's mission is to generate opportunities for learning and training, strengthening of existing know-how, and fostering exchanges to promote greater synergy and collaboration in the emerging field of ecological restoration. Between 2007 and 2013, the core group of REDCRE in Bogotá created the first regional node, which offered and carried out formal and informal courses at undergraduate and graduate levels, and developed inter-institutional contracts between universities and government agencies to undertake research, generate operational political and legislative tools, at national and subnational levels, and raise awareness of the profound potential benefits of ecological restoration in ecological, cultural, and socio-economic spheres. Various practical manuals have been produced for several types of Colombian ecosystems (e.g. Vargas 2007; Barrera et al. 2010; Vargas 2011; Vargas et al. 2012), as well as for a small but growing number of peer-reviewed articles in national and international journals (Murcia & Guariguata 2014, and references therein). Additionally, two national symposia and two congresses were held, and the 3rd International Congress of SIACRE was hosted in Bogotá. REDCRE also produces quarterly online bulletins describing the advances in the science and practice of ecological restoration in Colombia. Furthermore, the members of REDCRE provided support to the Environment Ministry of Colombia, in the construction and dissemination of the above-cited National Restoration Plan.

REDCRE is now establishing subnational nodes to generate technical capacity-building opportunities and optimize the available human and financial resource at provincial and local levels. In 2012, a second subnational node was created in Barranquilla, with a special focus on Caribbean, seasonally dry tropical forests and coastal and marine ecosystems, including mangroves and coral reefs. In early 2014, a third node was created in the region known as *Eje cafetero* in Colombia, in the middle Cauca valley. This node initially consisted of 16 people and 8 institutions that together offer an online capacity-building course for people in the region. In November 2014, a fourth node was created in the Antioquia province, with headquarters



Figure 1. The organizers and some of the speakers at the inaugural symposium of the Antioquia Node held in Rionegro, Colombia, 13–14 November 2014.

in Rionegro. This group will concentrate on pre-montane and montane forests, as well as on páramo. It is noteworthy that Antioquia province has the most highly developed regional economy in Colombia, with intensive and long-standing activities in mining, agriculture, livestock production, and commercial forestry. Concurrently, there is a considerable amount of work on ecological restoration and rehabilitation, as well as on ecological engineering. However, to date, those efforts have not been well coordinated. Thus, the emergence of a well-organized node in Antioquia, strongly integrated in REDCRE, is a timely event.

At the inaugural event, in Rionegro, more than 220 people from all over Colombia, with additional participants from Ecuador, Mexico, and a representative-at-large of the SER participated in a packed, 2-day program of fresh-from-the-field presentations of ongoing restoration work underway through government agencies, corporate, NGO, and academics (Fig. 1). In the closing discussion, 73 persons and 22 institutions pledged their active involvement in the Antioquia node, and a firm commitment was undertaken by all of them present to support the rapid development of a nation-wide network of subnational nodes.

### Restoring to the Future

Six decades of armed conflict, combined with cultivation of illegal crops, have left the unintended consequence of reducing development pressure on many regions (Alvarez 2003; Fjeldså et al. 2005), allowing forest expansion of at least 3% in the last decade (Sánchez-Cuervo et al. 2012). However, in the coming post-conflict era, massive deforestation could take place if the government does not enforce the country's strong environmental laws, and control the outcomes of ongoing negotiations for forests and other ecosystems. Often, the argument is that the

need to combat poverty and create jobs overrides environmental considerations. However, ecological restoration could be a major and unifying theme and an important engine for job creation. We call on the people and government of Colombia to leave behind the culture of conflict and degradation that has prevailed for half a century and work together toward a culture of conservation and restoration. There is already strong and favorable policy in Colombia, but there must be much stronger investments in capacity-building, at all levels from secondary schools to professional training, as well as integration of ecological restoration in larger, landscape-scale, and bioregional efforts. Additional steps should include guidelines on what researchers, NGOs, government agencies and the public need to do to assure that in the next 5–10 years, there will be a significant shift toward mainstreaming ecological restoration in society. REDCRE can also be very helpful in providing more substance to the National Plan for restoration, and concerted effort to establish a national monitoring and evaluation effort (e.g. PACTO pela Restauração da Mata Atlântica 2013), to track and evaluate ecological restoration success and effectiveness on both ecological and socioeconomic goals (Aronson et al. 2011).

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