Food and Agriculture Organization of the United Nations

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Views, Experiences and Best Practices as an example of possible options for the national implementation of Article 9 of the International Treaty

Note by the Secretary

At its second meeting of the Ad hoc Technical Expert Group on Farmers' Rights (AHTEG), the Expert Group agreed on a revised version of the template for collecting information on examples of national measures, best practices and lessons learned from the realization of Farmers' Rights

This document presents the updated information on best practices and measures of implementing Article 9 of the International Treaty submitted by the Centro Internacional de Agricultura Tropical (CIAT) on 23 July 2019.

The submission is presented in the form and language in which it was received.

Centro Internacional de Agricultura Tropical (CIAT)

Basic information:

Title of measure/practice

Rapid participatory characterization of cassava landrace agrobiodiversity, nomenclature and traditions, uses, and conservation status

Date of submission

23 July 2019

Name(s) of country/countries in which the measure/practice is taking place

Peru

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Type of institution/organization

International research Centre, part of the CGIAR.

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Mandatory information:

Brief summary for the inventory

The characterization of cassava landraces in the region of Pasco, Peru, was initiated in 2017 by a consortium coordinated by the International Center for Tropical Agriculture (CIAT), including the Instituto Nacional de Innovación Agraria (INIA), National University Daniel Alcides Carrión (UNDAC), the civil society organization Instituto del Bien Común (IBC) and an organization representing the indigenous Yanesha peoples, the *Federación de Comunidades Nativas Yaneshas* (FECONAYA). Objectives entail the documentation of *Yanesha* cassava agrobiodiversity, including associated practices and traditions; to compare these with historic measures (based on previous studies); to assess patterns of conservation, management, and loss; to generate locally-appropriate educational materials, including varietal catalogues; to communicate results to local peoples; and ultimately to empower the *Yanesha* peoples. Core components include the systematic documentation of existing landrace diversity in cassava-producing *Yanesha* communities by conducting household surveys, participatory GIS cartography and field sampling, phenological and morphological documentation, plant photography and ethnobotanical inquiries, combined with genetic fingerprinting studies. These data provide a robust analysis of cassava diversity and conservation trends, both spatially and temporally. In addition, locally appropriate catalogues and communication materials give local people insight into their varietal diversity, risk of loss, and management options.

Brief history (including starting year), as appropriate

The characterization began in 2017, when the CIAT-coordinated consortium of project partners began. This follows on work conducted by CGIAR-affiliated scientist Jan Salick on documenting Yanesha cassava diversity in the same region in 1986, and again in 1999. Since this time much has changed for the Yanesha, including Peru's approval of the UN Declaration on the Rights of Indigenous Peoples (DRIP) in 2007, and the establishment of the Oxapampa Ashaninka Yanesha Biosphere reserve in 2010. The CRP-RTB has one activity on in-situ conservation, initially involving baseline-level inventories of crop diversity in identified hotspots as a precursor to future monitoring activities.

Core component of the measure/practice (max 200 words)

The practice consists of the systematic documentation of existing landrace diversity in cassava-producing communities. The practice begins with a standardized household survey, which is randomly implemented in each of the participating villages. These surveys are followed by participatory GIS cartography and field sampling, in which farmers assist local university students in documenting their cassava fields using geographic information systems containing detailed characterization of cropping patterns, intercropping / polyculture arrangements, and spatial segregation by variety. The methodology allows for red listing of landraces as a measure of the relative abundance or evenness of these materials.

On the basis of farmer responses, village-level varietal collection gardens are installed, and planted with a representative collection of unique cassava landraces from the surveyed farmers and communities. These landraces are maintained in order to conduct phenological and morphological documentation at 3, 6, and 9 months after planning, and at harvest. Plant photography and ethnobotanical inquiries help to document each individual landrace in detail. This in turn is expected to result in a catalogue of the landraces of the Yanesha. In the final stage of the study, leaf clippings will be used to conduct genetic fingerprinting studies to be paired with the morphological and use descriptions collected above. These data together will form the basis of a robust analysis of cassava diversity and conservation trends, both spatially and over time. In addition, this data will be used to generate locally appropriate catalogues and communication materials for use in the project area, giving local peoples unique insight into their varietal diversity, risk of loss, and management options.

Short description of the context and the history of the measure/practice is taking place (political, legal and economic framework conditions for the measure/practice) (max. 200 words)

Baseline assessment and cataloging is a well-established approach to both systematic monitoring of the conservation status of on-farm diversity (De Haan et al., 2016), as well as assuring farmers rights to their genetic resources (Scurrah et al., 2013). It allows for the objective establishment and documentation of the agrobiodiversity maintained by indigenous communities. This documentation and actual registration allows for communities to defend and promote their ancestral resources.

To which provision(s) of Article 9 of the International Treaty does this measure relate

Art. 9.1 X

Art. 9.2a X

Art. 9.2b ☐

Art. 9.2c X

Art. 9.3 ☐

Other information, if applicable

Please indicate which category of the Inventory is most relevant for the proposed measure, and which other categories are also relevant (if any):

No.	Category	Most relevant	Also relevant
1	Recognition of local and indigenous communities', farmers' contributions to conservation and sustainable use of PGRFA, such as awards and recognition of custodian/guardian farmers		X

2	Financial contributions to support farmers conservation and sustainable use of PGRFA such as contributions to benefit-sharing funds		
3	Approaches to encourage income-generating activities to support farmers' conservation and sustainable use of PGRFA		
4	Catalogues, registries and other forms of documentation of PGRFA and protection of traditional knowledge	X	
5	In-situ/on-farm conservation and management of PGRFA, such as social and cultural measures, community biodiversity management and conservation sites		X
6	Facilitation of farmers' access to a diversity of PGRFA through community seed banks[1], seed networks and other measures improving farmers' choices of a wider diversity of PGRFA.		
7	Participatory approaches to research on PGRFA, including characterization and evaluation, participatory plant breeding and variety selection		
8	Farmers' participation in decision-making at local, national and sub-regional, regional and international levels		
9	Training, capacity development and public awareness creation		
10	Legal measures for the implementation of Farmers' Rights, such as legislative measures related to PGRFA.		
11	Other measures / practices		

Objective:

To catalog Yanesha cassava agrobiodiversity, maintenance, cropping practices, and traditions; to compare these with historic measures to evaluate patterns of conservation, management, and loss; to generate locally-appropriate educational materials communicating the results to local peoples through varietal catalogues and other products; ultimately to empower the Yanesha peoples with a greater understanding and stewardship of their cassava genetic resources.

Target group(s) and numbers of involved and affected farmer:

This initiative works specifically with Peru's Yanesha indigenous people. With a population of less than 10,000 people, the Yanesha are a small indigenous group making up approximately

[1] Including seed houses.

3% of the Peruvian Amazon's indigenous population. The Yanesha are an Amerindian group with a language in the Arawak family. Over the past 4 decades, the Yanesha have moved steadily away from their traditional fishing and hunting background, and increasingly into commercially-oriented crop cultivation and livestock based livelihoods. Linguistic evidence suggests that the Yanesha have been inhabiting their traditional lands surrounding the Palcazu and Pichis river valleys for ~4000 years. Archaeobotanical and ethnographic studies indicate that cassava has been an integral part of the diets and traditions of the Yanesha people for the duration of this time. Lessons learned from the Yanesha experience will also serve as an example and model for the dozens of other minority ethnic groups in Peru's Amazonian region and beyond. Ideally future catalogues would be developed based on an ethnic and/or hotspot-basis.

Location(s) and geographical outreach

The Yanesha traditional lands surround 33 Yanesha villages in the Palcazu and Pichis river valleys in Central Peru's Pasco region. In 2010, the Oxapampa-Ashaninka-Yanesha Biosphere Reserve was established in Pasco, with a core area of 110,000 ha and buffer/transition zones bringing the total surface area to 1.8 million hectares. The designation of this area as a biosphere reserve is an official recognition of the importance of the living landscape, which explicitly includes both natural resources and the interacting socio-economic activities of its indigenous Amerindian inhabitants. The Yanesha (and their much larger neighboring Ashaninka ethnic group) face serious challenges from plantation farming and livestock rearing led ecosystem degradation, the encroachment of colonists migrating from other regions of Peru, growing outside commercial interests in their resources, and the illict coca trade. These factors, among others, jeopardize the unique interacting biodiversity of the Yaneshas' domesticated and crop wild relative genetic resources.

Please describe the achievements of the measure/ practice so far (including quantification) (max 200 words)

In the case of this particular initiative on cassava landraces it is too early to say how it has affected conservation. The actual publication of a catalogue will still take a few years. However, previous experiences on cataloging and baseline studies of contemporary diversity have been highly successful, providing a record of what farmers actually maintain and resulting in the description of previously undocumented landraces with unique characteristics. Achievements, as of today, with the Yanesha communities include the installment of 15 gardens with local communities and a qualitative inventory of landraces (survey-based).

Are you aware of any other international agreements or programmes that are relevant for this measure/practice?

Yes, similar work has been done by the International Potato Center (CIP) resulting in various landrace catalogues. See:

https://cgspace.cgiar.org/handle/10568/89110
https://cgspace.cgiar.org/handle/10568/69083
https://cgspace.cgiar.org/handle/10568/73247
https://cipotato.org/wp-content/uploads/2014/08/003524.pdf

Other issues you wish to address, that have not yet been covered, to describe the measure/practice

For the Yanesha people, cassava diversity is an explicit link to their spiritual and cultural heritage. The Yanesha religion and mythos are intertwined with their landscape and real geographic, floral, and faunal environment. The creation myth detailing the very origins of the Yanesha peoples themselves explains that people were cassava in the previous world. For this reason a role of the Yanesha shaman is to maintain the diversity of cassava landraces for future generations. Yanesha names for traditional cassava varieties codify these traditions and parables, and emphasize this rich cultural legacy. According to legend, the preparation of cassava beer, known as 'masato', was the event that allowed human social harmony and the organization of villages and settlements, and the fermented cassava drink remains of central importance in nearly any community event of note today. This intangible cultural heritage is essential to the preservation of the Yanesha identity in a changing world. The rooting of these mythologies in cassava agrobiodiversity gives the documentation and management of these resources a special importance and significance in the preservation of customs and beliefs beyond the norm in other scenarios.

Lessons learned

Describe lessons learned which may be relevant for others who wish to do the same or similar measures/practices (max 250 words).

Active involvement of local stakeholders, including NGO's, indigenous associations and research institutions has enjoyed a high level of trust, which has facilitated the execution of solid agreements with the local population, including about attribution and use. Active involvement of elders and women has been vital in the documentation of collective knowledge about landraces, which has put in evidence that documentation and characterization of native plant genetic resources needs to be done locally, on-farm, and involving the farmers themselves as central actors in the process.

The work has put in evidence that at least 3 years, ideally 5 years, is the time needed to fully document agrobiodiversity in hotspots. Fundraising is becoming more and more difficult to obtain to support exploratory agrobiodiversity genetic studies without explicit commercial implications.

What challenges encountered along the way. What would you consider conditions for success, if others should seek to carry out such a measure or organize such an activity?

Active involvement of local stakeholders, either NGO's, indigenous associations or institutions that enjoy a high level of trust

Active involvement of elders and women to document collective knowledge about landraces

Fundraising is becoming more and more difficult to support exploratory genetic studies without explicit commercial implications.

Further information

De Haan, S., Polreich, S., Rodriguez, F., Juarez, H., Ccanto, R., Alvarez, C., Otondo, A., Sainz, H., Venegas, C. and Kalazich, J. (2016). A Long-term Systematic Monitoring Framework for On-farm Conserved Potato Landrace Diversity. pp. 289-296. In: N. Maxted, E. Dulloo and B.V. Ford-Lloyd (eds.), Enhancing Crop Genepool Use: capturing wild relative and landrace diversity for crop improvement. CABI International, Wallingford.

Scurrah, M., De Haan, S. And Winge, T. (2013). Cataloging Potato Varieties and Traditional Knowledge from the Andean Highlands of Huancavelica, Peru. Pp. 65-79 In: R. Anderson and T. Winge (eds.), Realising Farmers' Right to Crop Genetic Resources: success stories and best practices. Routledge Publishers, New York.