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 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)) on 23 July 2019.

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

International Crops Research Institute for the Semi-Arid Tropic (ICRISAT)

Basic information

Title of measure/practice
Farmers Participatory Varietal Selection (FPVS) trials

Date of submission
17 July 2019

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

Responsible institution/organization (name, address, website (if applicable), e-mail address, telephone number(s) and contact person)
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India. Srinivasan Samineni, Senior Scientist, Chickpea breeding. Ph: +91 40 3071 3585, +91 9948280279; Email: s.srinivasan@cgiar.org

Type of institution/organization (categories)
International Research Centre, part of CGIAR.

Collaborating/supporting institutions/organizations/actors, if applicable (name, address, website (if applicable), e-mail address, telephone number(s))
Director of Agriculture and Food Production, Department of Agriculture Farmers' Empowerment, Government of Odisha, India (website: https://agriodisha.nic.in/Home/English)

Mandatory information:

Short summary to be put in the inventory (max. 200 words) including:
The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), in collaboration with the Department of Agriculture Farmers' Empowerment, Government of Odisha, India, conducted activities for the promotion and adoption of new and improved chickpea cultivars in three districts (Keonjhar, Mayurbhanj and Sundargarh) of Odisha state from 2014 to 2017. The objective was to identify and promote farmer-preferred chickpea varieties. Core components were farmer-participatory variety selection (FPVS) trials, through which farmers were exposed to seeing the performance of improved and diverse cultivars, including early maturing, drought tolerant, high yielding and wilt resistant cultivars. 52 FPVS trials were conducted in different villages of target districts, each including on 5-6 cultivars; 668 men and 261 women farmers participated in the activities. Farmer-preferred chickpea varieties spread quickly among the farming community and showed high rates of adoption. These trials enhanced farmers' awareness of newly available varieties and improved production technologies among farmers. Key lessons learned include that low availability of improved seed was one of the challenges faced by farmers, and that seed systems should be strengthened to enhance farmers' access to preferred varieties.

Brief history (including starting year), as appropriate
n/a

Core components of the measure/practice (max 200 words)
Crop varieties are the core components of the selection process by farmers. Farmers in the targeted locations have been growing low yielding and disease susceptible local landraces. Through FPVS trials, farmers were exposed to see the performance of improved and diverse cultivars suitable for the local growing conditions. The chickpea cultivars included were early maturing, drought tolerant, high yielding and resistant to wilt disease.

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)
None

To which provision(s) of Article 9 of the International Treaty does this measure relate
Art. 9.1 √
Art. 9.2a ☐
Art. 9.2b ☐
Art. 9.2c ☐
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		
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		

5	In-situ/on-farm conservation and management of PGRFA, such as social and cultural measures, community biodiversity management and conservation sites		
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	1	
8	Farmers' participation in decision-making at local, national and sub-regional, regional and international levels		
9	Training, capacity development and public awareness creation		1
10	Legal measures for the implementation of Farmers' Rights, such as legislative measures related to PGRFA.		
11	Other measures / practices		

Objective(s)
To identify and promote farmer preferred Chickpea varieties for cultivation.

Target group(s) and numbers of involved and affected farmers
Smallholder farmers are the target group. FPVS trials were conducted for four years (2014-18) and 668 men and 261 women farmers participated in the selection of varieties.

Location(s) and geographical outreach
Three districts (Keonjhar, Mayurbhanj and Sundergarh) in Odisha state of India. Chickpea varieties were promoted under rice-fallow areas.

Resources used for implementation of the measure/practice
Government of Odisha has sanctioned a project entitled 'Promotion of Improved Chickpea Varieties in Rice-Based Cropping Systems of Smallholder Farmers in Odisha' for a period of four years (2014-18).

How has the measure/practice affected the conservation and sustainable use of plant genetic resources for food and agriculture?
Large portion of the smallholder farmers involved in the varietal selection process belonged to tribal areas. These farmers were given different options to select their preference among high yielding varieties suitable for cultivation in their local environments. Farmers could themselves identify the improved traits in the new cultivars compared to their traditional landraces and were convinced about adoption of new cultivars.

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

[1] Including seed houses.

Farmer preferred chickpea varieties spread quickly among the farming community and also showed high rate of adoption. A total of 52 farmer-participatory varietal selection (FPVS) trials were conducted on 5 - 6 cultivars in different villages of target districts (Keonjhar, Mayurbhanj and Sundargarh) under rice-fallow conditions during 2014-15 to 2017-18 (Table 1). The cultivars included both desi (JAKI 9218, JG 14, NBeG 3 and NBeG 47) and kabuli (Ujjawal and Vihar) types. A total of 929 farmers (668 men + 261 women) which included 260 farmers (193 men + 67 women) in Keonjhar, 332 farmers (245 men + 87 women) in Mayurbhanj, and 337 farmers (230 men + 107 women) in Sundargarh district evaluated the cultivars in these districts.
The farmers preferred NBeG 3 followed by JG 14 (heat tolerant) and NBeG 47 (tall and large seed). Farmers preferred NBeG 3 due to its profused branching habit and bigger pod and seed size. The average yield of the desi varieties was in the range of 1.1 - 1.5 t ha-1. Further, the kabuli chickpea variety Ujjawal (1.2 t ha-1) performed better than Vihar (0.9 t ha-1). Farmers received good yields, even though the crop was sown late (around mid-December) every year due to delay in paddy harvesting in kharif season.

Year	**District**	**No of trials**	**No of farmers participated**		**Most preferred variety**	
			Men	Women	Men	Women
2015-16	Keonjhar	6	98	36	NBeG 3, JG 14	NBeG 3, JG 14
	Mayurbhanj	10	102	45	NBeG 3, JAKI 9218, JG 14	NBeG 3, JAKI 9218, JG 14
	Sundargarh	7	95	61	NBeG 47, NBeG 3	NBeG 47, NBeG3
2016-17	Keonjhar	5	32	14	JAKI 9218, NBeG 3	NBeG 3
	Mayurbhanj	5	85	20	NBeG 3	NBeG 3
	Sundargarh	5	81	21	NBeG 3	NBeG 3
2017-18	Keonjhar	5	63	17	NBeG 3, JG 14	NBeG 3, JG 14
	Mayurbhanj	5	58	22	NBeG 3	NBeG 3
	Sundargarh	5	54	25	NBeG 3, NBeG 47	NBeG 3
Total		**52**	**668**	**261**		

Other national level instruments that are linked to the measure/practice
none

Are you aware of any other international agreements or programs that are relevant for this measure/practice?
none

Lessons learned

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

Availability of improved seed was the major challenge faced by farmers. Seed systems need to be strengthened for promoting the farmers preferred varieties.

Nutrient status of the farmer fields was not tested before planting the trials. Many fields were found deficient in several macro and micro nutrients.

What challenges encountered along the way (if applicable) (max 200 words)

Many of the farmers were illiterate which made them difficult to understand the new production technologies and the process of varietal selection.

Participation of women farmers was less compared to men.

What would you consider conditions for success, if others should seek to carry out such a measure or organize such an activity? (max 100 words)

The following conditions may be considered while conducting the FPVS trials.

1. The optimum number of varieties in the trials should be 5-6 for making selections by farmers.
2. Encourage participation of women farmers in the selection process.
3. Farmers should be sensitized on special characters of each variety before the selection process.
4. Selection process should be conducted at optimum stage of crop where varieties show their best performance.
5. Demonstrate the performance of improved varieties along with the local landraces and traditional cultivation practices.