



Maharashtra Gene Bank Programme for Conservation, Management and Revival of Local Bio-resources

Supported by: Rajiv Gandhi Science and Technology Commissions (RGSTC), Govt. of Maharashtra

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The MGB project team is happy to bring out this second issue of e-newsletter which covers the best case studies captured from various project locations and covering different thematic areas.

1. Crop Genetic Diversity

SEED MOTHER "Rahibai" from Akole, Ahmednagar



Smt. Rahibai Soma Popere is 52 year old tribal farmer from Kombhalne village of Akole block. She has 3 acres of cultivable and 4 acres degraded land. She could not attend school due to poverty but gained knowledge about agro-biodiversity, wild food resources and traditional culture through practice and experience.

Through her experiences she realized that conservation of agro-biodiversity and wild food resources is need of hour to achieve seed sovereignty and nutritional security. She started nursery of Black berry (4000 seedlings) and distributed as a gift to members of Self-Help Group (SHG). She then established nursery of hyacinth bean (9 types) -5000 seedlings, rice, vegetables, beans landraces and shared with 210 farmers in 7 villages of Akole Block. She also conserved and multiplied about 43 landraces of 17 different crops (Paddy, hyacinth bean, millets, pulses, oil seeds etc.) by establishing *in-situ* germplasm conservation centre. She has also established perennial kitchen garden for their house-hold consumption and use it year -round.

Now she is an active member of Kalsubai Parisar Biyanee Savardhan Samiti, Akole and has established community seed bank in her small house for conservation and revival of crop diversity and wild food resources. At present about 122 landraces of 32 crops are under conservation.

She has zeal to learn new agronomic techniques. She got expertise in SRI method of Paddy cultivation, improved cultivation practices for tomato and hyacinth bean, participatory seed selection, organic farming techniques (vermicompost, vermiwash, natural pest repellents), nursery establishment and trained about 3500 farmers across Ahmednagar district. She leads 5 Self Help groups in Kombhalne village and is creating awareness among women for participation in Self Help group movement, village sanitation, clean kitchen, seed conservation and wild food exhibitions. She has also represented Akole Self Help group Federation in different events organized by Agriculture dept., Tribal Development, ATMA, SHG festival at district level.

Her work has been felicitated and got her reward as best Seed saver by Krishi Vigyan Kendra, Bhableshwar, BAIF's Best Farmer award, appreciation by Dr. Prem Mathur, Bioersivity International and Dr. R.R. Hanchinal, Chairperson, PPV & FRA, Ministry of Agriculture, New Delhi during their visit to Jawhar block in January 2015 and felicitation by Akole Taluka Patrakar Sangh on the occasion of International Women's day (8th March 2016).



Her work has drawn lot of visitors-agriculture officers, scientists, farmers, students from different part of Maharashtra who came to see her *in-situ* conservation centre, hyacinth bean diversity centre, kitchen garden etc.

Really women like Rahibai, a seed mother (Beej Mata) are playing a vital role in preserving the immense agrobiodiversity of the country. They are the only hope for seed sovereignty, food security and nutritional security under the context of changing climate.

2. Indigenous Livestock Diversity

Biocultural Community Protocol: a way of learning livestock breeds and their keepers

Communities are keeping livestock breeds from generation to generation by learning with the experiences with the nature. It has been observed from literature as well as our experiences while implementing Maharashtra Gene Bank Project designed and implemented for conservation and development of Indigenous domesticated biodiversity in Maharashtra that communities and different tribes are responsible for maintaining as well as conserving indigenous breeds of livestock. Biocultural Community Protocols is the tool for understanding the role of these livestock breeds in the culture of local communities. It is the method to document and understand how communities are rearing livestock breeds their way of keeping animals, managing to survive in harsh conditions, breeding goals, community's traditional knowledge etc.

For exploring the knowledge of Banjaras and their Lal Kandhari cattle in Marathwada region in Maharashtra we arranged a preliminary dialogue-cum-meeting at Banjaras Tanda near Kandhar block of Nanded District. The day was for special Malegaon Yatra the second biggest of such events in India after Rajasthan's Pushkar Mela and the largest market for donkeys, cattle and horses. Chief guest were Ilse Kohler Rollefson from Lokhit Pashupalan Sansthan, Sadri Rajasthan and Dr. Chanda Nimbakar from NARI, Phaltan, Satara. The dialogue with the Banjaras was a great learning experience some of the findings are as follows:



How Lal Kandhari breed developed:

Banjaras were the traditional salt, grain and cattle traders throughout India during Mughal sultanat and according to the old age people during the meeting they have brought original stock which was a precursor of Lal Kandhari breed and from selective breeding they have developed it.

Breeding objectives: According to traditional breeders in the villages this breed is useful for working in the hardy and rocky fields. Their hoofs are round in shape and very strong legs adapted to work in harsh and

rocky fields. This breed is suitable and adapted in small hilly region of Marathwada. The main objective of breeding and keeping these animals is for drought purpose. Milk is the second objective only for house consumption. The cost of pair of male calves is Rs. 60000 to 70000.

Management: This breed is under total zero in put based rearing that means no outside or dependency on market for rearing them. Women in the house are the key person who manages the herds. Total natural grasses available along with crop residues are used for feeding the herds. Cows are kept for male calf and dung manure.

Shrinking herds: It was told to us that in olden days every family was rearing 3, 4 *Khandis* (One khandi= 20 animals) of animals but due to shrinking lands changing cropping pattern the herd size is also shrinking. The tanda we visited, out of 67 families only 5 families were there having a good number of herds. People are facing the problem of drought to water their animals they have to buy water from different sources.

Need to further document detailed cultural as well as livelihood aspects of Lal Kandhari breed for developing Biocultural Community Protocols of Banjaras, to help in securing their experience and traditional knowledge of rearing Lal Kandhari cattle breed for future generations.

3. Conservation of Non timber Forest Produce (NTFPs)

Non-Destructive (Scientific) tapping of gum

Background: The gum tappers in Jawhar have been using traditional method of gum tapping with an aim to extract the maximum quantity of gum from various gum producing trees like Karaya, Dhamoda, Khair etc. Method followed is destructive, laborious and wasteful which even causes damage to trees. The quality of gum is also not good leading to low price (kind) in the market. Recognizing the need to enhance the capacities of the gum tappers and to increase the gum quality and quantity, it was decided to give training on non-destructive (scientific) method of gum tapping under Maharashtra Gene Bank Project under NTFP theme.

Training: First training was given by Mr. Giri Gurudas (MITTRA, Gadchiroli) to gum collectors/tappers and project staff at Jawhar in February 2016 at Dongarpada village. The method used Ethephon solution (2 ml solution of 39 % Ethephon). Such trainings have been conducted for gum tappers during March to May by project persons.

As the technique of ethephon application is simple and requires no specialized skills, it can be easily taught to unskilled tribal. Thereafter, gum harvesting kits were procured and more trainings were given in various villages. Ethephon is inexpensive, indigenously manufactured, easily available and safe. Many trees were tapped by staff and villagers in Kokanpada, Chowk and Vanganpada villages. Kits were distributed to 52 NTFP groups who have started using it. It has been found that Ethephon solution has yielded gum in good quantity and quality within 15 days of tapping. The yield of gum when tapped using ethephon is about 10 times more than the yield when tapped using traditional method. The injury made by the traditional tapping is very large while very small by scientific method. The gum produced by the tapping using ethephon is high quality.



This way, efforts made by MGB project will not only help villagers get good price of gum but also help in

avoiding destruction of gum producing trees.

Way ahead: Gum collector/tappers in other villages would also be taught scientific methods of gum tapping, good harvesting practices, grading and storage of gum. Value addition and marketing chains would also be established. It would help in getting good price of gum for collector and good quality of gum for traders/consumers.

Important events under MGB School programme

- BAIF Password Vachak Abhiyan Organized by BAIF-MITTRA & Unique Features and News Pvt. Ltd, Pune on 17th and 18th March 2016 at Jawhar for creating awareness among schools students about Biodiversity aspects and Habit of Reading. 712 students from 3 schools participated in these events.



- Organized field exposure to create awareness about Kokanpada habitat conservation site (29th March 2016).
- Training on natural colours preparation for Holi festival organized in 3 schools and 14 different colour prepared.

Important Events

Community level events:

- Dangi exhibition at Khirvire, Pune was conducted on 24th April 2016 and was news was appeared in Aapala Mahanagar and Saarmat newspapers.
- Indo-German bilateral co-operation in Seed Sector organized by PPV & FRA, New Delhi during 23-24 May 2016.

Awards and recognitions:

- Smt. Rahibai Popere and her efforts on biodiversity conservation appreciated by Akole Taluka Patrakar Sangh who facilitated her on International Women's day (8th March 2016) at Ahmednagar. Another felicitation on 23rd March 2016 at Krishi Vigyan Kendra, Bhableswar, Ahmednagar district.
- Shri. Mochada Pawara, Seed saver from Dhadgaon block of Nandurbar district felicitated by Dr. R. R. Hanchinal, Chairperson PPV & FRA, New Delhi during National level DUS Testing meeting at MPKV Rahuri (26th March 2016).



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