

Action Research under HUF-SAMUHA Partnership Project – 2017-18

Diversified Cropping System (DCS) in the Command area:

Background

This concept emerged as a result of a major pest Brown Plant Hopper (BPH) management issue faced during the Kharif 2015 in TLBC command area. Soil application of pesticide granules followed by foliar spray of synthetic pesticides in and around the NPM fields, has eradicated the majority of the beneficial insects (soil cum water predators on BPH) leaving very less population of spiders alone to manage this pest in this region. This has left no option but to spray the latest synthetic pesticides to manage this BPH outbreak. This pest management issue has led the project to think beyond just crop/pest management for this region and focus on whole agro-ecosystem that is being damaged. The rise in level of damage by rodents in paddy crop season without its natural control (such as water snakes) is another evidence for the damaged Ecosystem. This issue led to conception of the idea of shifting from mono-cropping system to Concept of Diversification of Cropping System.

Pilot on FIC level DCS in the Command area: One solution for many problems



Farmer Nirupadeppa at Jangamarahatti

In 2015-16, it was learned that the real problem has been not just with one crop and one pest in the command area, but of the whole ecosystem in TLBC command area. The Project started discussing with farmers about growing other crops along with paddy in the command area which is called as Diversified Cropping System (DCS). Farmers were not of positive opinion about this in the beginning. When tried in small scale of 1 acre in the midst of vast area of paddy in 2016-17, it didn't click well due to ecological pressure on small area. Then, the new idea of Field Irrigation Channel (FIC) level DCS emerged. As per this idea, farmers under the FIC come together and crop planning will be done and alternatives will be made ready well before the season starts. Here, water can be controlled at the FIC level and need based irrigation alone will be given in the FIC area. This

attempt was made successful during Kharif 2017 at Jangamarahatti, a middle reach village of Sindhaur taluk where the Water project activities started in 2016. Though 41 farmers with 167 acre of FIC-5 of Sub Distributary-6L under main Distributary -54, came forward to work together with DCS approach, due to poor and delayed rainfall, only 9 farmers in 47 acre alone could sow Maize, Bajra, Sunflower and Redgram in June. With later rains in the season, crop condition was really amazing. Farmers felt so happy to see that crops other than paddy also can be grown in the traditional paddy area if we have good understanding, guidance and will to implement. In spite of climate change issues faced, it was a big success and yield of these crops were quite good. Yield of the crops are 32 qtls, 12 qtls and 6 qtls per acre of Maize, Bajra and Sunflower respectively. As an average Rs.12,500/acre as net income in a span of just 3-4 months. These farmers have harvested their second crop Bengal gram and two of them have got Gingelly as 3rd crop.



Farmer Sharanabasava at Jangamarahatti

This DCS approach has given better net profit than paddy with huge amount of water saving of about 2.4 ML per acre compared to non-paddy crops. Hence, with DCS approach has been a possible one in the traditional paddy area and this could solve many problems such as pests and pesticides pollution, increased cost of cultivation, soil fertility and water issues and sustainable production etc, in the command area.