India cultivates about 70 to 80 pearl millet hybrids on about 5 million ha (about 70% of the total pearl millet area) in India since last 30 years where at least 60 to 70% of the hybrids are directly or indirectly based on ICRISAT-bred hybrid parents. This has made remarkable contribution to biodiversity (largest number of hybrids on-farm in pearl millet as compared to any coarse grain cereal), enhanced Downy Mildew resistance (no related epidemics in the last 30 years), yield stability, and increased productivity (grain yield increased from about 539 kg/ha during 1986-90 to 1350 kg/ha during 2010-15 registering 73% improvement (almost 3% productivity increase per annum in last three decades in India), which is highest among all food crops) for this hardy crop cultivated largely under most marginal environments with negligible external inputs in India.

Being a public-sector institution, ICRISAT develops improved varieties and hybrid parents of the mandate crops. ICRISAT recognized Private Sector seed companies as a valuable research partner for research on hybrid cultivar development and seed production. The interaction with the private seed sector was informal and passive in 1990s, although it continued to derive immense economic benefits from ICRISAT’s research products. The idea of a consortia to primarily to engage the private sector in more active partnership to hasten the pace and scale of impact, and to generate research funds to provide partial support to pearl millet improvement research at ICRISAT was born.

This led to the conceptualization and formation of Pearl Millet Hybrid Parents Research Consortium (PMHPRC) in 2000-2001 at ICRISAT, under which companies pay fees for access to parent materials to develop better hybrids. The impact of PMHPRC on the development of hybrids through extensive use of parental lines by the members was studied in the HPRC-I study.

At present, 26 seed companies are members of PMHPRC. This approach harnesses complementary expertise and resources, and generates synergies between international agricultural research centers (IARCs) and the PS in the development and marketing of seed of improved cultivars, without compromising the global research agenda in delivering international public goods (IPGs).

Since the launch of this partnership, the scope for overall benefits at country level in India could surpass US$ 150 M per year from contributions of Hybrid Parents Research Consortium. Improved nutrient availability with increased production of pearl millet grains and forage is an important aspect along with climate smart and resilient agriculture that is strengthened with improved hybrids.

This innovation contributes to SDG 1 “To end poverty in all its forms, everywhere” SDG 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”, SDG 17 “Strengthen the means of implementation and revitalize the global partnership for sustainable development”. This seed management technique has been taken up by users, and is at Maturity Level 3 i.e. policy and/or practice changes influenced by these new methods have led to adoption or impacts at scale or beyond the direct CGIAR sphere of influence. Among others, this is evidenced by...