Society of Pulses Research and Development (ISPRD) and the Directorate of Pulses Research, Kanpur. Despite the delay of 3 years in bringing out this volume, research workers, scientists, and development personnel will have useful information on the present status of pulse production, the thrust areas of research, and strategies to optimize and sustain pulse production in different agroclimatic zones in India. Most of the papers deal with the two major pulse crops of India, chickpea and pigeonpea.

The authors share the view that the overall area under pulses has been fluctuating between 20 and 24 million ha for almost 25 years, though there have been increases or decreases in the hectarage of a particular pulse crop owing to specific reasons. There has been a marginal improvement in pulse production mainly due to increased productivity with the introduction of new varieties and improved technologies. As a result of the stagnation in cultivable area, a marginal increase in production did not match the increase in demand due to growing population. The per capita availability of pulses has declined from 70 g day^{-1} during 1951/52 to 30 g day^{-1} at present against the FAO/WHO recommendation of 80 g day^{-1}.

The authors describe new achievements in their respective fields of pulse research. A number of erect and compact genotypes like BGs 261, 268, 274, and 276 were developed through recombination breeding, exploiting two different growth habits of the bushy Indian type and the tall Russian variety of chickpea. The authors report the identification of two sources of stable genetic male sterility in pigeonpea, possessing significant levels of exploitable heterosis. Emphasizing the importance of short-duration pigeonpea hybrids for their ability to fit into a wider range of cropping systems, and for their adaptability to higher latitudes, the authors list some of the promising short-duration experimental hybrids such as ICPHs 495, 526, 583, and 732 which have yielded over 5 t ha^{-1} at ICRISAT. They opine that a breakthrough in yield potential is possible. It is indicated that pigeonpea hybrids not only performed better under optimum soil moisture conditions, but also exhibited greater drought tolerance due to vigor in their root system.

Development of short-duration genotypes of both chickpea and pigeonpea has increased the number of options to tackle terminal drought stress. Identification of genotypes with an ability to set pods at lower winter temperatures (<5°C) have been reported.

The projected total demand of pulses by 2000 A.D. at lower and higher projections would be 20.7 and 24.7 million t respectively against 13.7 million t during 1988/89. With the scope for increasing the area being limited, the introduction of suitable varieties in the non-traditional areas is suggested as a means to meet demand. Another suggestion is to ensure sustainability through in-built resistance for various biotic and abiotic stresses. Exploitation of the tremendous potential of less-known pulses like winged bean, faba bean, and rice bean through an appropriate extension network to increase the overall pulse production is also suggested.

T.J. Rego
ICRISAT Center

Country Reports/Surveys

Collection of Wild *Cicer* Species in Pakistan

The Pakistan Agricultural Research Council (PARC), Islamabad, Pakistan, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India, organized a joint expedition to collect wild *Cicer* species in the northern mountains of Pakistan during Jul-Sep 1992. These activities for the preservation of biodiversity in *Cicer* were financially supported by the Asian Development Bank. Three wild perennial *Cicer* species were collected during this expedition (Table 1, Figs. 1, 2, and 3).

Cicer nuristanicum and *C. macranthum* were collected for the first time during the expedition. The seed of these species will be freely available to interested institutions and scientists. The three *Cicer* spp listed in Table 1 were collected by M. Sadiq Bhatti, R. Anwar (PARC) and Henk A. van Rheenen (ICRISAT) at an altitude ranging from 2450 to 3850 m in areas not easily accessible to humans but frequently visited by animals (Fig. 4).

M. Sadiq Bhatti, R. Anwar
and Henk A. van Rheenen

Table 1. Number of seed samples of wild *Cicer* spp collected from the northern mountains of Pakistan, during the PARC/ICRISAT expedition, 1992.

District	*C. microphyllum*	*C. nuristanicum*	*C. macranthum*	Total
Chitral	7	2	-	9
Swat	-	-	5	5
Gilgit	5	-	-	5
Skardu	5	-	-	5
Gangche	13	-	-	13
Total	30	2	5	37

Figure 1. *Cicer macranthum* with typical spines.

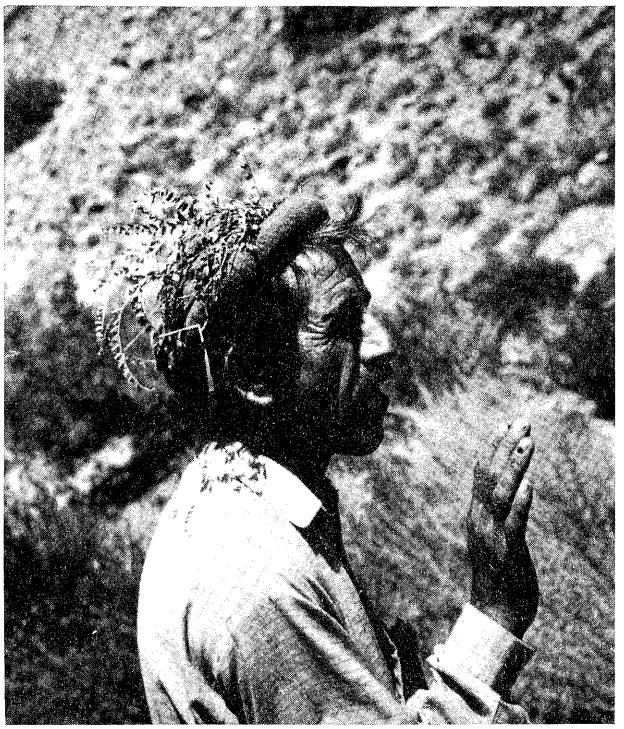

Figure 2. *Cicer nuristanicum* used to decorate the cap of a hillman.

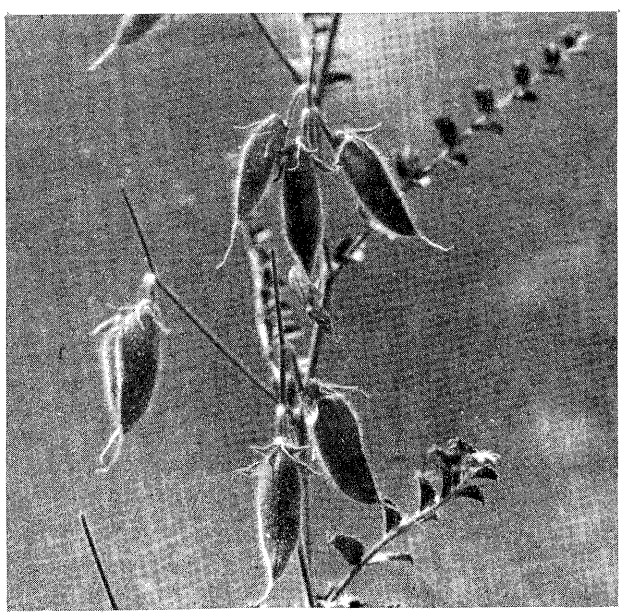

Figure 3. *Cicer microphyllum* with twin and triple pods.

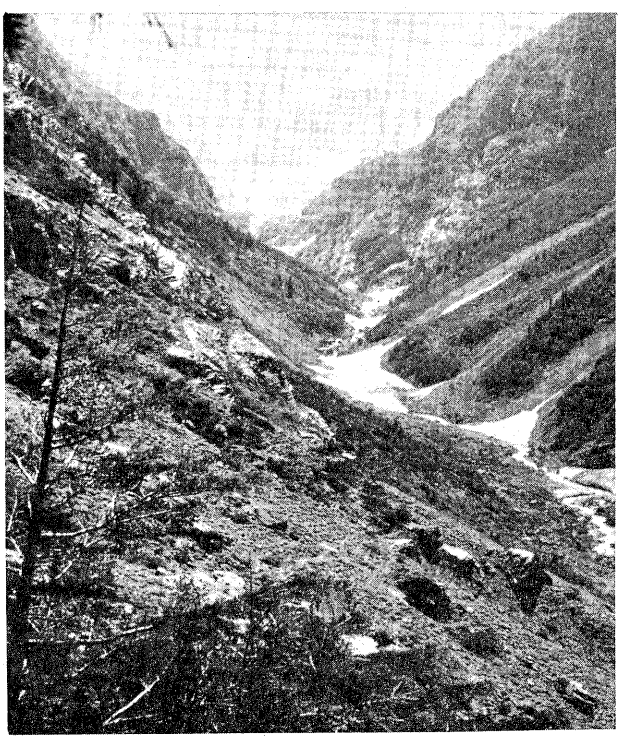

Figure 4. Kalam, North-west Frontier Province of Pakistan: home of *Cicer macranthum*.