SUMMARY

In the present study twenty six accessions of tribal pulse seed materials and their wild related species have been collected / procured from different parts of India. Thorough biochemical analysis and nutritional evaluation have been carried out for those accessions that are actually consumed by the tribals.

The biochemical analysis and nutritional evaluation reveal that most of the tribal pulses appear to be rich sources of crude protein; crude lipids; essential amino acids like isoleucine, leucine, tyrosine, phenylalanine and lysine; fatty acids like palmitic, oleic and linoleic acids and minerals like potassium, calcium and iron. Though they contain certain antinutritional factors like free phenols, tannins, L-DOPA and phytohaemagglutinating activity (lectins), except L-DOPA the other antinutritional factors are heat-labile and hence they can be destroyed easily by cooking process. Significant reduction in content of L-DOPA can be achieved by repeated soaking and boiling of seeds.

The accessions of Mucuna utilis (both the germplasms); Canavalia species and all the varieties of Vigna umbellata, besides, their several favourable biochemical triats, exhibit robust vegetative growth, more number of clusters per plant, high fertility index and seed recovery percentage
(unpublished work of our laboratory). Hence they can be exploited for future studies.

Though the accessions of *Vigna capensis* and *V. sinensis* do not grow properly in Coimbatore agroclimatic zone (unpublished work), they are closely related to the other common South Indian tribal pulses, *Vigna mungo, Vigna radiata*. Besides, they exhibit the following favourable biochemical traits viz., high crude protein content; high levels of essential amino acids, valine, methionine, isoleucine, leucine, tyrosine, phenylalanine and lysine; essential fatty acids, linoleic and linolenic acids; minerals like potassium and iron and negligible concentrations of the antinutritional substances investigated. Therefore the presently investigated accessions of *V. capensis* and *V. sinensis* can be further employed in the improvement of common pulses belonging to the genus, *Vigna*.

In view of the above said various agrobotanical and/or biochemical evaluation studies the germplasms of the genera, *Mucuna, Canavalia* and *Vigna* may be popularised for large scale cultivation, pulse crop improvement and human consumption in developing countries like India to alleviate the widely prevailing protein malnutrition after suitable trials.