(d) if so, what are the reasons for reducing the zone resulting in great loss to Scheduled Tribes and what remedial measures Government propose to take in the matter?

THE MINISTER OF COMMUNICATIONS (SHRI C. M. STEPHEN): (a) The Zone of consideration is to be normally 5-6 times of the panel. This is, however, subject to other administrative considerations.

(b) Yes, Sir.

(c) The rules provide that all the S/C and S/T candidates in the zone of consideration and upto the reserved percentage for them should be included in the Select List, if they are not considered unfit. All the S/T candidates were included in the Select List of the DPC in question.

(d) Does not arise.

Area under Cocoa and its production

3171. SHRI A. A. RAHIM: Will the Minister of AGRICULTURE be pleased to state:

(a) the total area under cultivation and the annual yield of Cocoa in the various States during 1977-78, 1978-79 and 1979-80 State-wise;

(b) whether an increase in the Cocoa production is being contemplated, considering the rapid expansion in the cultivation in all fields;

(c) whether keeping in view the estimated increased production, any increase in price to the growers is the thought of; and

(d) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI R. V. SWAMINATHAN): (a) Official estimates of area and production of Cocoa in different States are not being compiled. However, according to a very rough estimate, the total area and production of cocoa during 1979 were about 13,000 hectares and 1,000 tonnes of cocoa beans, respectively.

(b) There are no definite estimates of the likely expansion in area under cocoa in future; however, there is possibility of cocoa production increasing with the increase in age of the existing plantations.

(c) No, Sir.

(d) Does not arise.

I.C.A.R. on Farm Research for Poor Farmers

3172. SHRI R. R. BHOLE: Will the Minister of AGRICULTURE be pleased to state:

(a) whether the I.C.A.R. has done any farm research for the benefit of the poor and marginal farmers;

(b) whether by any research, the poor farmer can spend less and get more produce in food crops; and

(c) whether the scientists are doing the work as a team and whether they are encouraged by proper personal policies to work for the poor farmer?

THE MINISTER OF AGRICULTURE AND RURAL RECONSTRUCTION (SHRI BIRENDRA SINGH RAO): (a) Yes, Sir. Most research done by I.C.A.R. is scale-neutral and benefits small and marginal farmers. A large number of improved high yielding varieties of different crops have been evolved. New production technologies and packages of practices have been evolved, some of them non-monetary in nature or involving very small investment e.g. the improved seeds, optimum time of sowing, adjustment of spacing, depth and moisture content, appropriate seed rate to establish crop stand; seed treatment with rhizobial culture in pulse crops; application of Azolla in rice cultivation; proper and timely application of fertilizers based on soil tests and intercropping of millets with pulses and oilseeds etc.

Research on Dryland Agriculture has clear focus on poor and marginal farmers. Very relevant Dry Farming Technology has been evolved which

can help increase production significantly under dry farming conditions. Experiments have shown that by appropriate water harvesting and using this water, for one life saving irrigation, to crops during stress periods increases the yields significantly.

National Agricultural Research Project, started recently with World Bank assistance has major emphasis on rainfed crops particularly on cereals, pulses and oilseeds and backward/tribal areas. The Council is planning to enlarge the scope of this project to include mixed farming to generate employment and increase income of the small farmers.

The research findings generated from the Agricultural Universities/I.C.A.R. Research Institutes/Coordinated Research Projects etc. are tested in the farmers fields for their suitability economic soundness and acceptability for farmers before they are released for adoption. National Demonstrations being implemented by the Council also aim at transfer of research findings/Technology. Operational Research Projects initiated by the Council is another example where I.C.A.R. undertakes research on Operational problems on farmers fields.

In order to increase animal production, improved cross breds of cattle with high milk yield (3000 litres per lectation), high layers of poultry lines (240 eggs per year) and cross bred sheep have been developed which small farmers can benefit from. A number of economical rations have been developed for the livestock out of agricultural bye-products to economise on feeding costs.

Massive efforts are being made for the transfer of Technology from laboratory to farmers' field under the programme entitled "Lab to Land" initiated by the Council in the year 1979 especially for 50,000 families of small and marginal farmers, tribal farmers and farmers coming from the weaker sections of the society.

(b) Yes, Sir. Only the research technology found profitable on input-output ratio basis is given out for adoption by farmers so that the income from produce is more than the cost investment with a clear margin of profit.

The major research effort of I.C.A.R. during past 15 years has gone towards improvement of food crops such as wheat, rice, sorghum, maize and bajra. Many high yielding varieties have been developed. Several of these have been adopted by the small and marginal farmers. These varieties, besides better yielding ability have built in tolerance to diseases and pests. Hence they provide special advantage to small and marginal farmers to get higher yields with relatively low inputs.

(c) Yes, Sir. The research carried out at the I.C.A.R. Institutes and All India Coordinated Crop Improvement Projects are problem-oriented and have multi-disciplinary team approach where scientists from a number of disciplines work together to plan and carry out agreed research programme as a team. This helps to maximise utilization of available talent for best results.

With a view to ensure effective systems of carrer planning management and development, the I.C.A.R. has constituted an Agricultural Research Service. This has significant feature of five yearly assessment system for promotion of scientists without dislocating them. They continue to work on the problem of their interest and in their speciality. Suitable incentives are also given to complement for working in remote, backward and tribal areas which are handicapped. The I.C.A.R. has also instituted two biennium awards of Rs. 10000 each in the name of Fakhruddin Ali Ahmed Award for outstanding research in tribal areas in the field of agricultural sciences and animal sciences.