

process gives a yield of 43 per cent. of pulp, which also bleaches well.

SHRI D. P. KARMAKAR: May I respectfully ask the hon. Minister if he is aware of the fact that already good research has been done under the auspices of the Khadi and Village Industries Commission in this connection and actually three thousand families are being supported on this industry in Kerala at present?

SHRI M. C. CHAGLA: Yes, Madam. As I said, we are helping the Khadi and Village Industries Commission to make use of this research and to have a pilot plant. Also we are trying to explore the possibility of using the fibre for making paper.

THE DEPUTY CHAIRMAN: Next question.

ARTIFICIAL RAIN-MAKING IN INDIA

*528. **SHRI N. SRI RAMA REDDY:**
SHRI B. N. BHARGAVA:

Will the Minister of EDUCATION be pleased to state:

(a) whether any results have so far been achieved from the experiments conducted in connection with artificial rain-making; and

(b) whether the attention of Government has been drawn to the fact that the Australian Commonwealth Scientific and Industrial Research Organisation has undertaken a twelve-month rain-making and colour research project which would make artificial rain-making possible, and if so, whether Government propose to conduct further experiments with such rain-making in the light of the above project?

THE MINISTER OF EDUCATION (SHRI M. C. CHAGLA): (a) It is too early to draw any definite conclusions from the work done by the Rain and Cloud Physics Research Centre of the National Physical Laboratory. So far 90 trials have been conducted in Delhi, Agra and Jaipur areas, out of which 50 have indicated a positive trend.

†The question was actually asked on the floor of the House by Shri N. Sri Rama Reddy.

(b) The National Physical Laboratory is aware of the experiments that have been conducted by the Australian Commonwealth Scientific and Industrial Research Organisation since more than a decade, but the technique used by Australian Scientists is not strictly applicable to tropical areas like those of India. Also, the weather situations in India are considerably different from those of Australia and it is possible to conduct the experiments in India only during specific periods of the year. The National Physical Laboratory propose to conduct further experiments on artificial rain-making under Indian weather conditions.

SHRI N. SRI RAMA REDDY: Madam, this is a matter of very great importance to the country. Therefore I would like to know the results that have been achieved so far from the 90 experiments that have been conducted, whether there is any possibility of reaching our goal or our being successful in the research with regard to rain-making.

SHRI M. C. CHAGLA: I have got the figures here, Madam. But the main difficulty is this that when we do bring down rain, it is always difficult to say whether the rain is natural or is produced by artificial conditions. That is the main difficulty. But I have got the statistics here from 1957 to 1963. In Delhi 25 were positive, 6 negative and 11 inconclusive; in Agra 11 positive, 9 negative and 4 inconclusive; in Jaipur 14 positive, 7 negative and 3 inconclusive.

SHRI G. RAMACHANDRAN: Having heard about these experiments in India and other parts of the world for a long time, may I know, Madam, whether there is any information available with the Minister to show that the money spent on these experiments can bring back at all a sufficiently adequate economic return in terms of rain supply and agricultural improvement?

SHRI M. C. CHAGLA: It is an experiment of the greatest importance. If we can succeed in artificially producing rain, we will have gone a long way in solving our problem of drought and, therefore, it

is worth while pursuing this. At present the experiments are not such as to warrant a very optimistic outlook. But I think we should pursue it.

THE DEPUTY CHAIRMAN: Still experimental stage.

SHRI G. RAMACHANDRAN: My question is I have no doubt that rain can be brought down . . .

THE DEPUTY CHAIRMAN: You want a ratio between expenditure and synthetic rain.

SHRI G. RAMACHANDRAN: I should like to know whether experiment on that will be justified in an absolutely poor country like India.

SHRI M. C. CHAGLA: Yes, Madam, it would be. Instead of clouds passing over without bringing down rain, if we can induce the clouds to pour down the rain in areas which are affected by drought, certainly it will be more useful.

SHRI GOPIKRISHNA VIJAI VARGIYA: Madam, there are times when there is less rain and times when there is abundant rain. May I know whether there is any scientific method of regulating it?

SHRI M. C. CHAGLA: We have not yet tried how to prevent the rain coming down.

SHRI M. RUTHNASWAMY: May I know, Madam, what is the cost of these experiments so far and what is the estimated cost of the total experiments?

SHRI M. C. CHAGLA: There is no specific cost because these experiments have been carried out in laboratories which already exist. It is part of the work of the national laboratories.

THE DEPUTY CHAIRMAN: We have not come to the open air rain yet. It is still laboratory rainfall.

SHRI N. SRI RAMA REDDY: May I know, Madam, whether the hon. Minister is aware that Russia has conducted the experiment successfully in Siberia on an

area of 750 sq miles where the rain was made to come down from the clouds. If this is true, why should we not make arrangements to send our scientists over to Russia and borrow that technique?

SHRI M. C. CHAGLA: I am grateful to the hon. Member for the information. I will convey it to the laboratory.

SHRIMATI SHAKUNTALA PARANJPYE: The hon. Minister referred to the experiment in Australia and said that tropical conditions are not conducive to conducting similar experiments in India. Because Australia has all kinds of climate, may I know whether these experiments were tried there?

SHRI M. C. CHAGLA: I may tell the House, Madam, that there are two ways of bringing down rain. One is by dispersal into the clouds of certain chemicals, like silver Iodide, in very fine form which can help formation of ice crystals, and the second is spraying into the clouds of very fine droplets of finely powdered common salt. Now, the first is intended for cold climate. The second is for tropical climate. And we follow the second one and the one that is going on in Australia does not suit our atmospheric conditions. I could not tell the hon. lady Member to which part of Australia these experiments relate.

PROF. SATYAVRATA SIDDHANTALANKAR: May I know, Madam, whether the hon. Minister is aware that according to Hindu tradition the daily performance of Yajna, Havan as it is called, is a means that precipitates artificial rains, and further, is the hon. Minister aware that special Yajnas or Havans are performed on special occasions when there is total scarcity of rains, and still further, are the Government prepared to investigate into the potentialities of Havan as a means of bringing down artificial rains, and are they prepared to earmark some money for such a research?

SHRI M. C. CHAGLA: I also understand, Madam, there is a particular *raga* which, if you play, brings down rain. My friend . . .

PROF SATYAVRATA SIDDHANTA-LANKAR: Madam . . .

THE DEPUTY CHAIRMAN Next question

*529 [The questioner (Shri G. K. Kapoor) was absent. For answer, vide cols 3726—28 infra]

सरकारी अधिकारियों की गलतियों के लिये जिम्मेदार ठहराया जाना

*530 श्री राम सहाय : क्या गृह-कार्य मंत्री यह बताने की कृपा करेंगे कि

(क) क्या सरकार किसी ऐसी योजना पर विचार कर रही है, जिसके अधीन अधिकारियों की गलती से सरकार को होने वाले नुकसान के लिये उन्हें उनके पद त्याग अथवा सेवानिवृत्ति अथवा अन्य विभागों को उनके तबादले के बाद भी उनकी गलतियों के लिये जिम्मेदार ठहराया जा सकेगा, और

(ख) यदि हा, तो योजना का ब्यौरा क्या है ?

†[FIXING OF RESPONSIBILITY FOR LAPSES OF GOVERNMENT OFFICERS]

*530. SHRI RAM SAHAJ: Will the Minister of HOME AFFAIRS be pleased to state.

(a) whether any scheme is under consideration of Government under which the Officers even after their resignation or retirement or on their transfer to other departments would be held responsible for their lapses resulting in loss to Government; and

(b) if so, what are the details of the scheme?

गृह-कार्य मंत्रालय में उपमंत्री (श्री ललित नारायण मिश्र): (क) जी, नहीं।

(ख) प्रश्न ही नहीं उठता।

†[THE DEPUTY MINISTER IN THE MINISTRY OF HOME AFFAIRS (SHRI L N MISHRA): (a) No, Sir.

(b) Does not arise]

श्री राम सहाय : क्या मैं यह जान सकूंगा कि श्रीमान् की नोटिस में पब्लिक एकाउंट्स कमेटी और ऑडिटर जनरल की वे रिपोर्टें आई हैं, जिनमें अधिकारियों के बारे में इस प्रकार की शिकायतें हैं कि उनकी अदमनिगरानी की वजह से, नेगलीजेस की वजह से, गवर्नमेंट के पैसे का, गवर्नमेंट की मनी का, बहुत काफी तादाद में नुकसान हुआ और उस पर उन लोगों को तरक्किया मिली, लेकिन जो नुकसान हुआ उसके बारे में कोई भी कार्यवाही नहीं की गई ?

श्री ललित नारायण मिश्र : मैं बता दू कि हमने उस चीज को तो देखा नहीं, जिसकी चर्चा माननीय सदस्य कर रहे हैं, लेकिन अभी भी जो हमारे फाइनेशल रूल्स हैं, उनमें यह है कि किन्हीं की वजह से अगर कोई नुकसान हो जाये, तो उनसे रुपए की वसूली की जाती है।

श्री राम सहाय : क्या माननीय मंत्री महोदय यह बताने की कृपा करेंगे कि चार, छ साल के अन्दर कभी किन्हीं अधिकारियों के ऊपर इस प्रकार का एक्शन लिया गया ?

श्री ललित नारायण मिश्र : इसके लिए मैं सूचना चाहता हूँ।

श्री चन्द्र शेखर : क्या माननीय मंत्री महोदय यह बताने की कृपा करेंगे—उन्होंने जिस फाइनेश रूल का हवाला दिया, तो क्या गृह मंत्रालय की ओर से कोई ऐसा आदेश विभिन्न मंत्रालयों को भेजा गया है कि अगर कोई भी अधिकारी इस तरह के दोषी पाए जाये, तो अवकाश प्राप्त करने के बाद भी उनसे वह रकम वसूल की जाये और वह रकम वसूल करने के लिए उनके विरुद्ध कार्यवाही की जाये ?