

The indefatigable Dr Richharia

# CRUSHED, BUT NOT DEFEATED

## THE WEEKLY INTERVIEW/R H RICHHARIA

□ *Could you begin by giving us some idea of your involvement in rice in the late fifties?*

It has been my hobby throughout life to collect rice material from whatever source possible and maintain and study it for genetic variability. Rice being my special subject, whoever came and met me, I requested him to give me some samples of rice. In this way I collected enough rice variability while in Bihar upto 1959 and when I came to Cuttack (Orissa) in the same year, I continued the same policy.

Here I started work with 67 rice types from Taiwan and discovered that there were two or three lines which were showing dwarf plants. We were interested in these dwarf varieties because if the rice crop does not lodge and at the same time can stand heavy manuring, that would be an ideal condition to get more production.

So, we found in those 67 varieties, two or three cultures of dwarf types and one of them was identified as Taichung Native I (TN I). I was the first person, with my assistants, to locate that and I felt we should multiply that material and make suitable selections. One of the selections made proved to be resistant to diseases and pests and was high yielding.

□ *How is it that the International Rice Research Institute (IRRI) was able to steal a lead on the Central Rice Research Institute (CRRI)? After all, you were the real experts in rice, and Robert Chandler, director of IRRI, had not even seen a rice plant when he was appointed to that post?*

Dr Chandler was known to the institute at Cuttack. The IRRI had started by 1962 and he then visited CRRI, and naturally as an innocent scientist, I showed him around. At one place we stopped and I pointed out some plants and said: "This variety will give you the highest production—a record yield in the world, of over 9000 lbs/acre and it is completely free from the usual pests:

Few scientists in India have been treated as shabbily as Dr R H Richharia, one of the leading rice experts in the country. Director of the Central Rice Research Institute at Cuttack, a post from which he was ignominiously transferred, he developed, for the first time in India, certain rice varieties which gave the highest yield and were free from the usual pests.

Unfortunately, his breakthrough irked the foreign-funded International Rice Research Institute in the Philippines. Which, with its influence with the Government of India, tried to stifle his research efforts. A sordid saga of injustice to Dr Richharia followed.

On these pages, Claude Alvares talks to the eminent agricultural scientist who became a victim of an international conspiracy, about the achievements in his research and the various obstacles he had to overcome to continue it.

Taichung Native I, (TN 1).—That mistake I made—I should have told him my selection number and not its origin. He said, you will be a mystic man if you can achieve that. I said, we have already done it and we will confirm it. He just made a note of it.

Dr Chandler returned to Delhi and informed the authorities concerned at the Government of India and the Indian Council for Agricultural Research (ICAR) that TN 1 and IR 8 have given the highest yield and therefore rice production can be revolutionised in India, if these two varieties are grown.

During that period I was chairing the rice committee at Krishi Bhavan, New Delhi—and Dr B P Pal sent a message that he wanted to meet me during the lunch hour. Dr Cummings (Rockefeller Foundation) was also attending that meeting although he was not a member. I was asked by Dr Pal to allow him (Dr Cummings) to attend that special meeting. I went to meet Dr Pal and he said that, TN 1 had been given to them by Dr Chandler of the IRRI and they had to accept it and introduce it; I said, Dr Pal, you are committing a great mistake, it is

all full of diseases and pests, susceptible to diseases and pests and some viruses also. The selection I made is different, whereas if you grow the general one (bulk seeds), it is all full of viruses, a plot of which can be seen even today. He said, 'but how can you stop it—they are sending it by air in tonnes as a gift'. I said, 'I am not a party to that and I would not recommend its import from there.'

□ *How often did Chandler attempt to interfere with your work?*

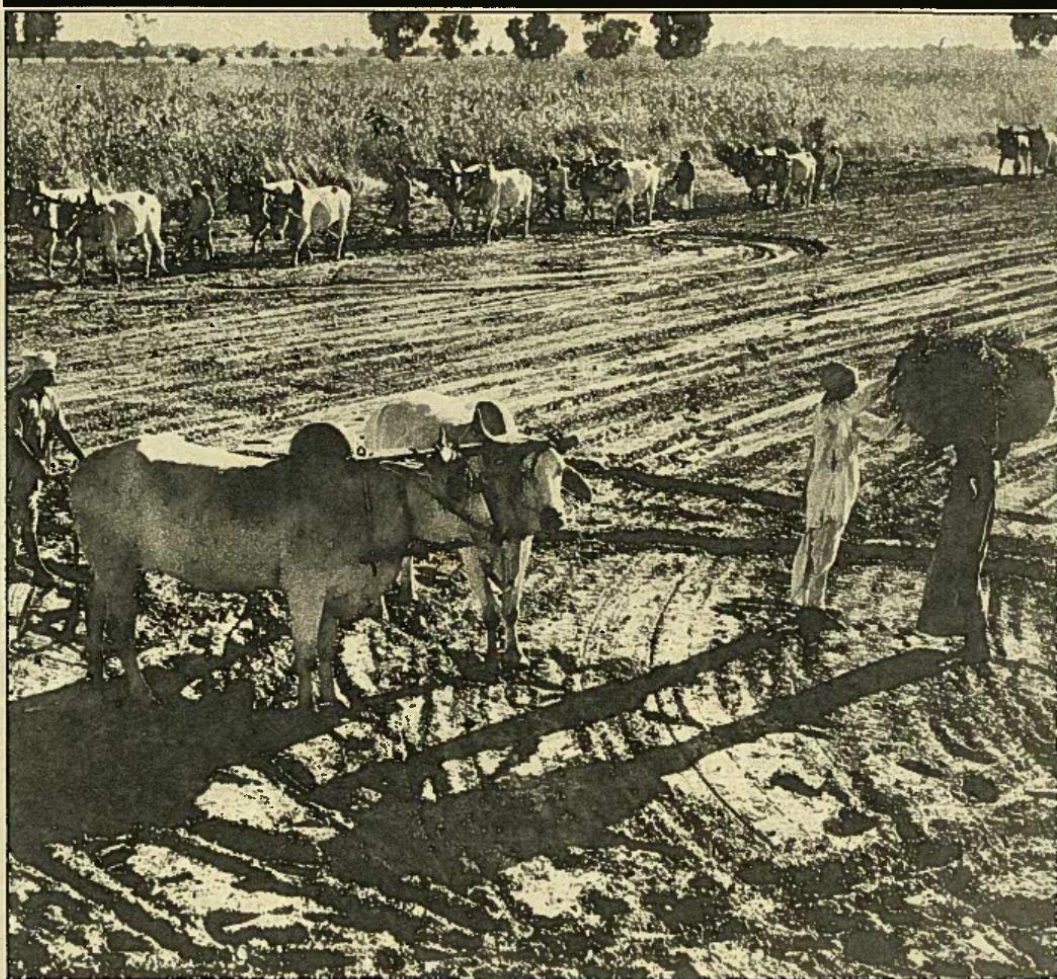
On another occasion he brought samples of 311 varieties to CRRI, all susceptible to diseases and pests, and handed them over to one of my staff members without my knowledge. This was when we were holding a seminar on rice at the CRRI. A number of scientists from Philippines came for the seminar and were my guests. After handing over the rice material (311 varieties), he instructed my staff member to divide them into two, one lot to be maintained at CRRI and the other lot to go to the co-ordinated Rice Research Centre at Hyderabad.

Chandler was leaving that day and

I was to drop him at the aerodrome. As I was getting into the car, a staff member came to me saying that he had been given a parcel with the material and he had divided the material into two, as desired by Dr Chandler, and he had brought one half because Dr Freeman (who was in charge of the Hyderabad station) was also going by the same plane, so he could carry it. This is how I learnt of the virus-susceptible rice material received without my knowledge from the IRRI.

I rebuked my staff member: how had he accepted, divided, allocated material on the instructions of an outsider? Anyway I then asked him whether he had got the quarantine certificate for the material, because we cannot import any plant material without a quarantine certificate. He said, no, sir.

I then asked Dr Chandler directly, "I understand you have passed on a number of rice cultures to a staff member of my institute, half of which are to be given to Dr Freeman for Hyderabad. The material has been brought. But first I want the quarantine certificate from you." He



**“Good work was being done by the Central Rice Research Institute in this country, making germplasm collections from indigenous rice varieties which could give you 30-40 per cent higher yield. We were also evolving varieties which would be responsive to high fertilisation, but all these activities met with an abrupt end.”**

replied, “You mean to say I am going to introduce virus-into your country?” I said, “I have never raised the question of virus. It is you who are saying so. I am only asking for the quarantine certificate, because according to the rules, no foreign seeds and plant material can be allowed into the country without the quarantine certificate.” He did not have the certificate and left.

So, my staff were already being bribed or won over and through some of them, (one or two) the IRRI was getting all the information from the CRRI. This is how they stole my institute’s work, just to get a lead in the rice world.

I learnt later that Chandler went straight to the minister for agriculture, at New Delhi and told him that if I continue as director of the institute, they would not co-operate. The minister, C Subramaniam, ordered that Dr Richharia should be asked to retire. But Sivaraman, the then cabinet secretary—he was earlier the agriculture secretary—who was a great friend of mine, advised the minister not to do this. “After all, Dr Richharia has done so much work

and built up the entire institute (CRRI) in its present form. We can’t ask him to retire. The best way is to transfer him as director of the Rice Development Council which we are just commencing”.

Sivaraman advised me to go and meet Subramaniam. I phoned his PA and was told to come to his residence between 6.30—7.00 am the next day. I went there early next morning. Everything was silent. Only one man was dusting and cleaning the place. I told him I had an appointment with the minister. He went and told the minister.

I was called in. Subramaniam said, “First you say that Taichung is a good variety. Now you are opposing it.” I said “I was telling you about the selection that we have made. If you introduce the bulk material directly imported, it will create havoc in the country and all our existing varieties will also be affected by virus and other diseases and pests. The material which I have selected is different.” He said: “I don’t know all this. Now that the Rockefellers have sent the material, you have to accept it”. I said, “I

refuse. I don’t want to be blamed later on, if someone wants to know who was the director who recommended its introduction.”

□ **What is the problem when you import seeds in bulk?**

They cannot be free from diseases and pests. You can import in quantities, but they must be treated with certain chemicals, and fungicides, so that if there are any eggs of insects or any mycelia and spores of any disease, they are all killed. They say they did it. But even if they did it, it is very susceptible to new diseases and pests, alternate hosts of which may exist in our surrounding wild flora here. So then the rice crop will get affected, spreading diseases in our innocent indigenous varieties. That is the concept. Introduction of tungro virus and the like are more dangerous.

□ **What is the susceptibility due to?**

Due to the special characteristics of the variety which is related to its gene.

□ **So it is possible to bring in a certain variety which is known to be susceptible to a certain virus?**

And this is what they have done

in the case of IR-8 and TN-1. They knew about it because they were also experts.

□ **And what was the difference between the Taichung variety that you had and the one that came later?**

What I had was a selection resistant to viruses, diseases and pests. Bulk seed is heterogenous. Out of that bulk, however, we can select individual plants to fit our purpose. This is how, out of thousands of Taichung plants, I had selected a few, and then multiplied them. If you use the bulk, their progeny will be mixed—good and bad.

□ **That means it entered the country with the Green Revolution?**

It has come simultaneously under the garb of the Green Revolution and I was the first to discover and realise that the mass/bulk import and introduction of seed would interfere with our productivity and once introduced, these viruses (Tungro virus, transitory virus etc), would be difficult to eradicate. Now the dwarf genes of exotic origin in rice have become a permanent feature in India.

□ *It is instructive to note how a country like the US with very little involvement in rice, could end up controlling rice research, and the destiny of millions.*

This is how they won. If the CRRRI came up, then they (the IRRI) were nowhere and the purpose of pouring in millions of dollars into the IRRI would be defeated.

They were in search of a place where they could control the rice research in respect of introducing varieties or whatever they wished to do. So first they approached the Government of India to hand over the Central Rice Research Institute to the Rockefeller Foundation Trust to establish an International Rice Research Institute. I had then just joined the CRRRI.

When the subject was discussed with me, I did not favour this transfer and I argued that to establish an international organisation on the soil of India would be unhealthy because we would not have any control. I felt that the Central Rice Research Institute should function as an independent institution and should not be handed over to the Rockefellers, who, after all, were a private concern. In those days, the Government of India was also of the same opinion. After this, they announced the establishment of an International Rice Research Institute in the Philippines, somewhere in 1960. Good work was being carried out by the Central Rice Research Institute in this country, making germplasm collections from indigenous rice varieties which could give you 30-40 per cent higher yield. We were also evolving varieties which would be responsive to high fertilisation, and working to develop non-lodging types and work connected with green manure crops and plant nutrition, utilising radio isotopes etc but all these activities met with an abrupt end; all of a sudden these programmes were all modified and workers' activities were directed towards evolving HYVs, responsive to high fertilisers with the dwarfing gene from the dwarf rice variety TN 1 and IR 8, crossed with all our renowned rice variety available in the rice region of India, to be converted into high yielding dwarfs, which means that unless you use the blood from IR 8 or Taichung Native 1, you cannot get HYVs, forgetting at the same time that such genes are also available in the indigenous rice varieties.

The ICAR yielded to this pressure which I had opposed. The man behind this strategy was Dr Robert E Chandler. They went to the extent of saying that in the existing rice germplasm of India, dwarf genes do not exist, which is not a fact. If you spoke in favour of this strategy, they promoted you and if you opposed it, they (ICAR) demoted you, broke you, as they succeeded in breaking me.

□ *So they retired you permanently?*

They gave me three months notice in 1966 when the CRRRI was being transferred under the ICAR, ie, on March 31, 1966. Naturally the three months' notice was handed over to me on January 1, so that I would not be able to opt for ICAR although I had filled up my option form for working under the ICAR after March 31, 1966, as I was aware of the fact that being the seniormost, next to next director general, I would take over as the next director general.

So my advocate who had filed a case at the Orissa High Court against the ICAR and Government of India (ministry of food and agriculture) argued, that 'you should give the reason why you have asked my client (Dr Richharia) to retire in such a hurry. What wrong was being done to the nation if he was allowed to continue a few months more, and retire honourably'. They had no answer. There were two aspects to my case—with one stone you kill two birds—if I retire on that particular date, their man, Dr Swaminathan, becomes the director general. Second, if I am removed, then they were free to introduce high yielding varieties of rice of any type and in any way they liked.

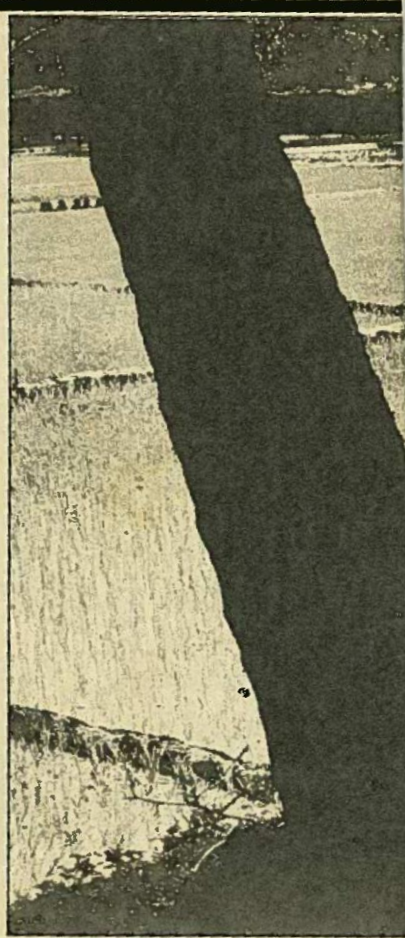
Two years, three years, the fourth and more passed by. I had to leave Cuttack. How long could I continue in that institute in the director's bungalow? After a certain time they would charge penal rent and take police action. At one stage, water connections were stopped and I was humiliated in many ways which I do not wish to narrate. So my advocate advised me to leave that place and go home, when it became intolerable.

So I appealed to my advocate that he must tell the Chief Justice of the great injustice that is being done to me by the opposite parties in delaying returns. At that time there were three dates fixed for the case. I had to go to Cuttack and at one stage nothing was left with us.

So I asked my wife what we should do. We had to maintain our children also. They had sent me word that if we withdrew the case, they would allow me to go to FAO. She said, 'Please yourself, but let me tell you one thing. If you go away, people will say that Dr Richharia must have been involved in some corruption. That is why in the end he reconciled, withdrew the case and went to FAO. So many corrupt people go to FAO.' I agreed with her.

So I accepted my wife's advice, and took a State Bank loan again, went to Cuttack for three weeks, paid the advocate his fees and the advocate explained my case to the Chief Justice. Notice was then issued to the Government of India and ICAR that by a certain time, the desired information should be returned. Then finally they sent the

**"I had proposed that hybrid vigour exploitation is possible in India by utilising vegetative propagation technology, which constituted a direct challenge to the dwarf type technology concept. But the energy and intellect of our rice scientists was wasted and now attempts are being made to channelise their energy through other futile lines."**



replies *We do not consider Dr Richharia to be a scientist and therefore we asked him to retire from ICAR.* Yes sir, ICAR did not consider Dr Richharia to be a scientist and therefore did not like to accept his option! I won the case. They were not justified in giving me three months' notice.

Then naturally the judgement had to be implemented. They called me there at CRRRI. I refused. Then they especially sent papers to me for my signature at Bhopal. Then I took over as director, and on the other side I handed over charge. I said I will not join now. All my papers were locked. When I handed over charge and proceeded on leave, I said to Padmanabhan, who took over charge from me, that for one month I will work in this room. He agreed and said: "Yes sir, you can work".

The next morning when I went to the institute, my room was double locked. All my research materials and scientific papers were confiscated. I have not got them till today.

□ *When did the MP government ask you to start the Rice Research Institute?*

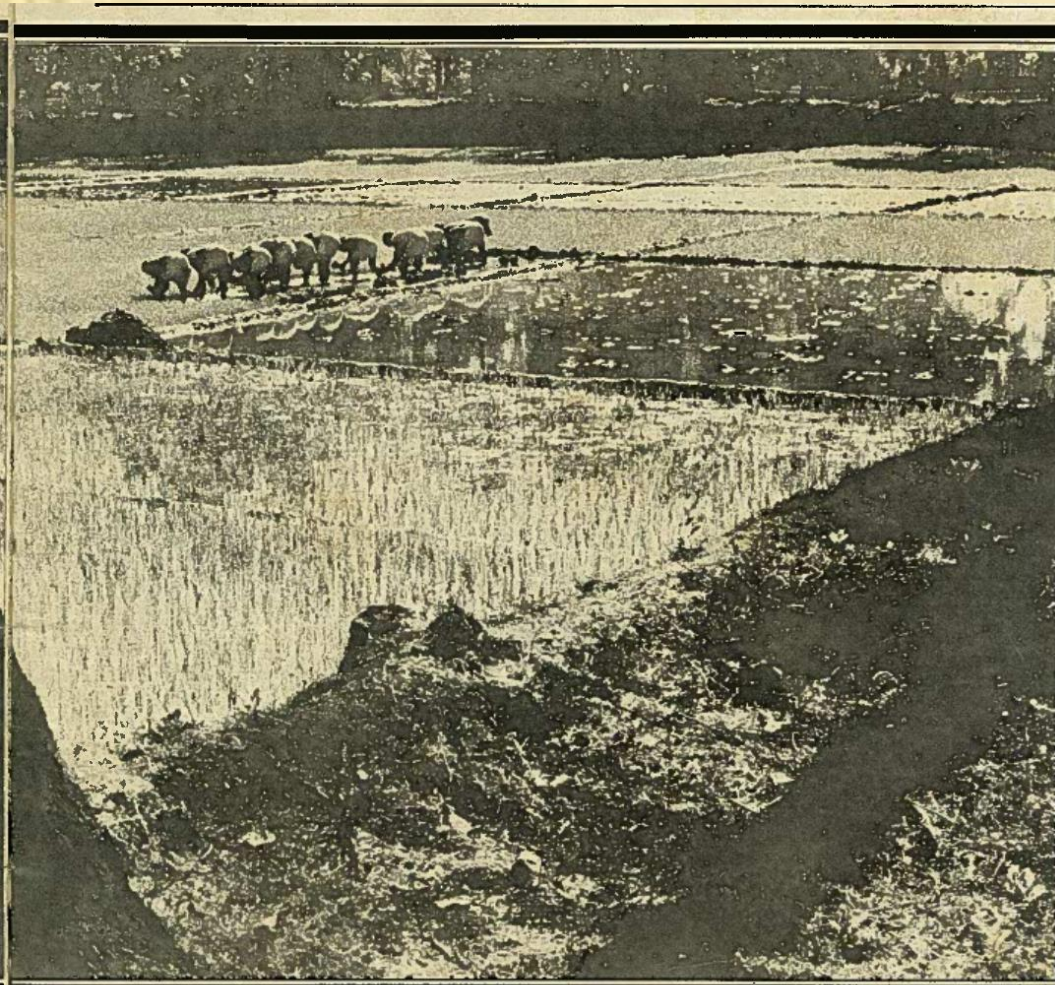
In 1971, I joined as agricultural advisor and I continued and built up this rice germplasm bank at Raipur in Chhattisgarh (MP), so that it soon had the richest material available including that from Abhujmad of Bastar.

□ *Tell me how did this second institute also get shut down? Why was the World Bank interested and what was Swaminathan's role in this?*

Swaminathan was already interested in the IRRI and then he was made secretary and vice-chairman of the ICAR. So all these projects on rice, including the departments, were all under him. They wanted to collect all the rice material. Through the ICAR, they were collecting rice types from various places and through the CRRRI, Cuttack, functioning under the ICAR.

Then they came to me. I said, I am not going to part with the material until I study it: how can I pass on something about which I know nothing?

One or two persons from ICAR came and met me personally. They said, "What objection do you have to



parting with your material when they also want to give you some in exchange?" The IRRI representatives had also very tactfully told me that they wanted material in exchange. I had made it clear to them that we were not interested in their material as it would come from the virus belt, whereas my rice material represents resistance. By that time I had already given out disease and pest resistant rice types in Chhattisgarh, the rice bowl of MP.

□ **Was the ICAR chief in league with the IRRI?**

He was behind it all, because he held all the power—how it will be organised, how much will remain with the CRRI, how half will go to Delhi and from there to the IRRI. He was the all in all. Moreover he was the secretary to the government and also the director general of the ICAR. He knew everything about India's food secrets and all its statistics. He was taken there to take advantage of his knowledge and experience on India's food policy. He knew all about our rice wealth. Where the material is, and who are the people working on it etc.

□ **So the institute was shut down?**

I did not refuse point-blank to part with my indigenous rice germplasm. I said, 'I'll certainly give you the material after I have studied it.' And I did give a few samples to them including some dwarf varieties which I had collected and bred. I told the scientist from IRRI who came especially to see me for this purpose, that if my rice material can do good to the South East Asian countries, do take it—on one condition, that whatever investigations you do with my material, you must send me a copy of the results achieved with special reference to dwarfing genes. They took the material but they never sent me the information.

I have been fighting to show that we have got better material in India where rice originated. They agree, and in their books they have mentioned the work of the MPRRI. That is why they wanted to get this material. They used to come at least once in two years to see my work at Raipur and nothing remained hidden. They therefore, wanted to get this material. They hoped that after

the amount of suffering caused by them, I would have learnt a lesson, so they approached me to forward the material.

Then they learnt that I had not changed, and I was not happy to part with the material because neither had they financed the MPRRI nor the ICAR. It was the state government that had financed it and also my age old efforts. So I said, no objection, I'll part with this material after I have researched it. They felt I was not coming round. They also knew that there was something in my material, which is now in charge of technical staff trained by them for the purpose.

So they thought of a plan, going well out of their way. I am sure the government never put up any scheme like this. They said, we will give Rs 4 crores (naturally through some recognised agency, here it was the 'World Bank') for continuing rice research but since there will be a duplication of research work because of MPRRI activities, that institute should be stopped. Underlying aim being to grab all the material first in the germplasm form, simul-

taneously replacing it by susceptible material (dwarfs), thus creating scope for the consumption of pesticides manufactured by their companies.

They felt that if I continue with my work, I would introduce my indigenous rice HYVs. This they had to block, and they succeeded in depriving me of my material and records and rendered me helpless. They will now spread that objectionable and susceptible rice material all over India to reduce rice production. □ **Dr Richharia, was there a credible alternative to increasing rice production in India? You have spoken of the Adivasis and their techniques. Did your people also have their own ideas?**

I had proposed that hybrid vigour exploitation is possible in India, by utilising vegetative propagation technology which constituted a direct challenge to the dwarf plant type technology concept. But the energy and intellect of our rice scientists was wasted and now attempts are being made to channelise their energy through other futile lines. That HYV dwarfs are no good has been proved beyond doubt and there are authoritative recommendations on this subject.

What next? Well, I think the plant breeders of India are free to go ahead in their own way and develop their own methods; so they (IRRI) have worked out another strategy which involves exploitation of hybrid vigour in India, on which I have been working for years and which I have developed. They suggested using male sterile lines, as done in China. To develop stable male sterile lines and restorer systems is not an ordinary business. It requires time and good material and yet success is not assured, and at the same time, it will not be possible to maintain such quality varieties as Basmati with the same aroma and increased productivity. Basmati must also have male sterile lines. It may be possible, it may not, but all these scientists must work only to find out whether you get it or not, thus diverting their attention and energy from their own line of work.

On the other hand, I said, why don't you exploit the hybrid vigour through clonal propagation which insures the economic production of crossed seeds from F1 plants for full normal crop from the F2 population (hybrid vigour persists in later generations also).

We would be committing a big mistake if we import those lines from China as it will involve a big risk as was done with TN 1 and IR 8. And I doubt if those lines would thrive well under variable Indian agro-climatic environments. It will be indeed unfortunate if we get our scientists involved in that exotic material instead of our own indigenous types. But my question is, why are we not taking this seriously? □