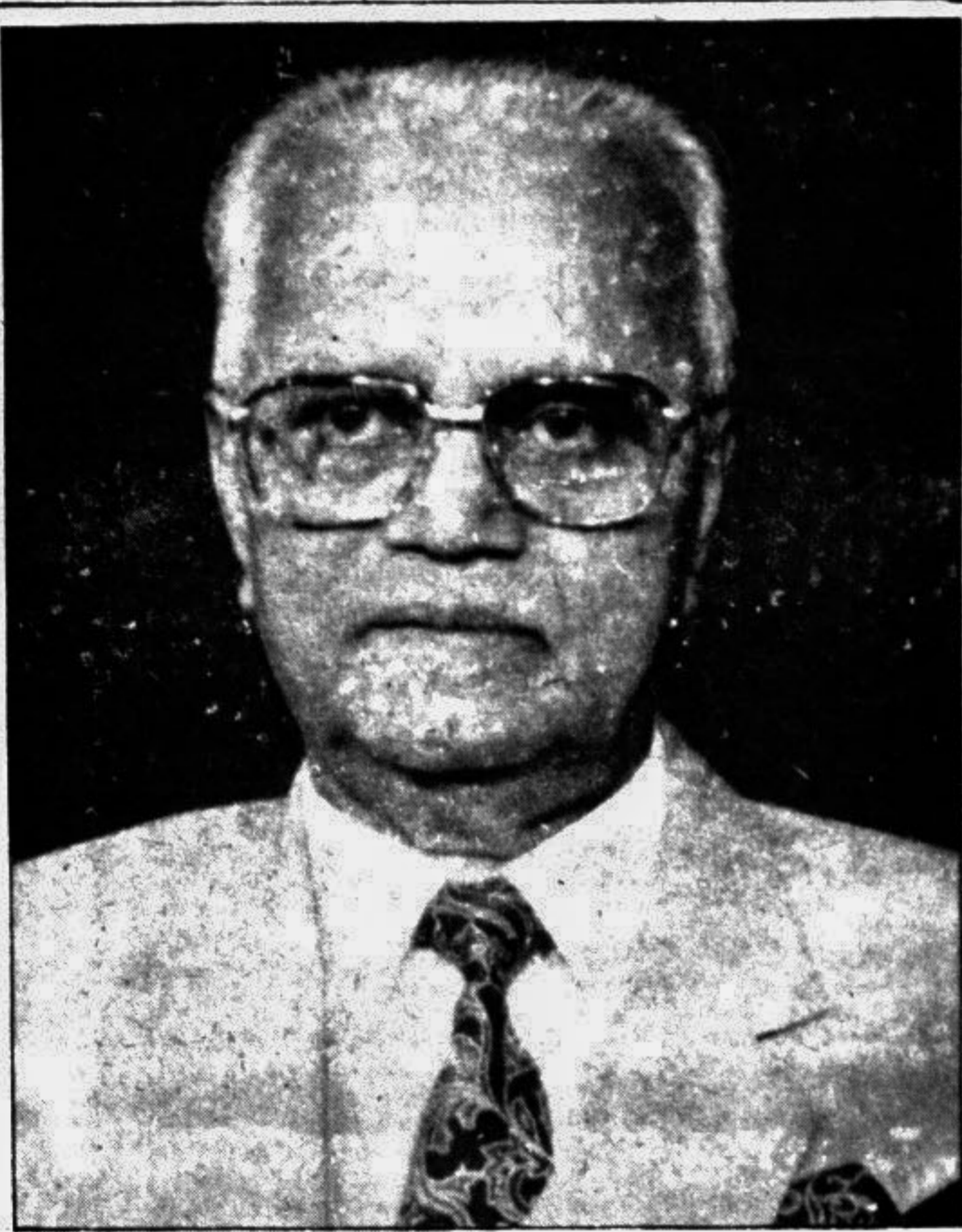


25 YEARS OF THE BANGLADESH RICE RESEARCH INSTITUTE



BANGLADESH RICE RESEARCH INSTITUTE
GAZIPUR

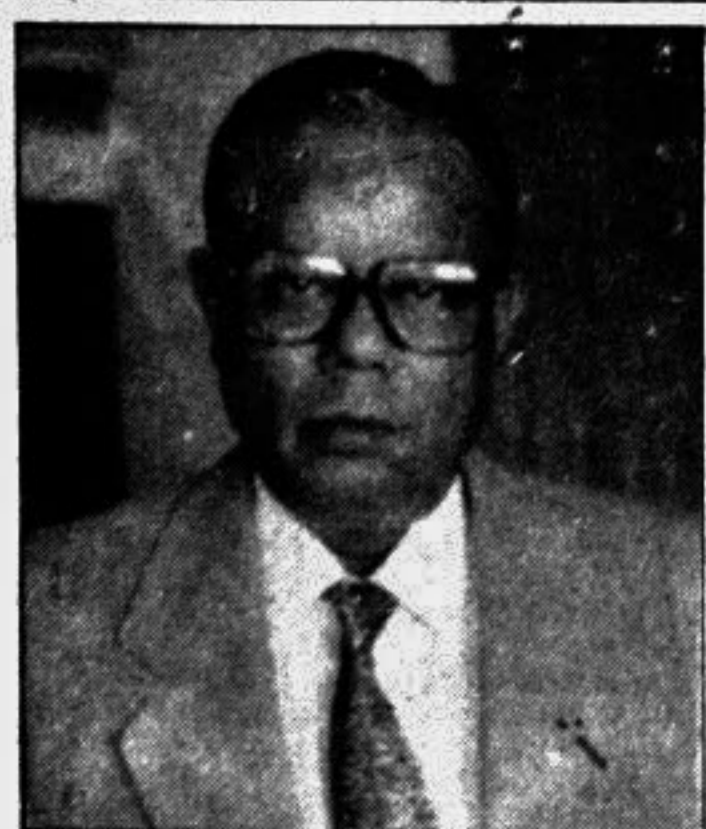
Design & Planning Promoters Advertising



MESSAGE

I am very happy to know that the Bangladesh Rice Research Institute (BIRRI), a leading agricultural research organization of the country, has now entered into the silver jubilee year after passing 25 glorious years of its existence. During these years, BIRRI has developed 31 high-yielding varieties (HYV) of rice resulting the increase of rice production almost double in the country. I convey my warmest felicitations and greetings to the scientists and all other employees of BIRRI for the glorious contribution in our national life. Food is the most basic necessity of a human being. Hunger is not only disastrous to the human body, but also is the most potent catalyst of social and political disorders in a country. In spite of relentless population pressure and recurrence of natural calamities like droughts, floods, cyclones etc. the country has not faced any unsettling food crisis. Increasing of rice production became possible because of the developing of modern high-yielding rice varieties and appropriate production technologies. Bangladesh now produces roughly 20 million metric tons of rice a year which is quite sufficient for the time being. But, as population projections indicate, the country will have to produce no less than 40 million tons of rice a year by the end of the first quarter of the twenty first century. I hope the agricultural scientists would try to develop super varieties to face the situation. The challenge of the future is no doubt a very tough one, but I do have the confidence that BIRRI will cope with it successfully. I wish BIRRI and its dedicated team of researchers all success in their future endeavours.

Abdur Rahman Biswas
PRESIDENT
PEOPLE'S REPUBLIC OF BANGLADESH



MESSAGE

Rice is the principal food crop of Bangladesh since the ancient time. The necessity to cultivate high-yield potential modern variety (MV) rice in the then Pakistan was felt when population was about half of

what it is today. As a result, an autonomous institute was established in 1970. After liberation of Bangladesh the institute was converted into a full fledged autonomous body renamed as the Bangladesh Rice Research Institute (BIRRI) by Parliamentary Act No. X of 1973. Since its establishment, BIRRI has devoted itself to developing MV rice and their appropriate technologies towards meeting the challenge of foodgap in view of the ever increasing population. BIRRI earned popularity outside and within the country, and was awarded nationally and internationally

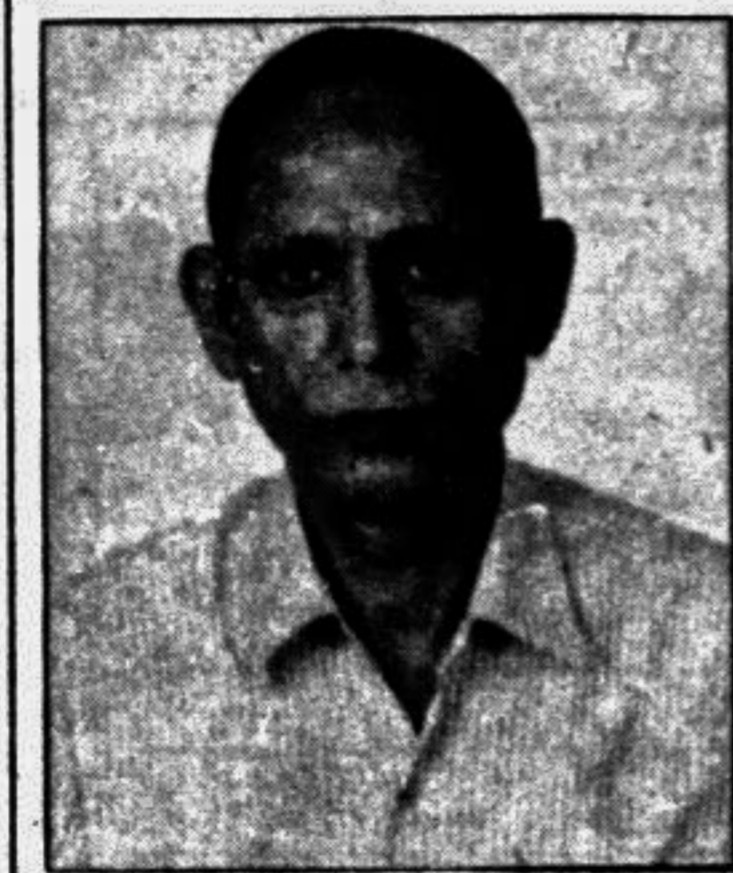
PROSPECTS AND PROBLEMS OF BALANCING THE DEMAND AND PRODUCTION OF RICE DURING THE COMING DECADES

Dr. M. M. Rashid
Director General
Bangladesh Rice Research Institute

Every country of the world has one or more staple foods which usually are cereals and tubers. In Bangladesh the staples are cereals of which 95% is rice. The importance of rice in our diet is so overwhelming that a shortage of it has become synonymous with the food problem of the country. Rice accounts for 68% of the total calory and 54% of the total protein intake in Bangladesh. It provides 17.7% of the GDP and employs 60-70% of the labour force.

Rice is also a staple in all countries of east Asia and a major part of our subcontinent, but the per capita consumption in other countries is much lower than in Bangladesh. For example, in Japan where the diet of the people is highly balanced nutritionally, the daily per capita consumption of cereals is only 315 grams, whereas, in Bangladesh it is 454 grams (16 ounces). Excessive dependence on rice has resulted from our inability to make available to the people sufficient quantities of other food items, namely, pulses, vegetables, fruits, fish and livestock products which together ensure proper nutrition of the body. Consequently, malnutrition is very wide spread in Bangladesh causing serious loss in the physical and mental efficiency of the people. Ignorance about nutrition, reluctance to change traditional food habit and above all poverty are responsible for this situation.

Since all items of food have been in short supply, the logical step taken by successive governments of the country was to ensure the availability of at least the cereals by all means. This is very important for the political stability of the country.



People of Bangladesh feel secure when they have rice in their stocks. But the problem of food is basically a problem of nutrition. Adequate attention needs to be paid to the alleviation of malnutrition while attaining and maintaining self sufficiency in the cereals. We have made fairly good progress in rice production

during the past three decades. From 1970 production has registered an average annual increase of 2.6% which barely kept pace with the growth of population. In years of favourable weather the country became virtually self sufficient. This happened as recently as in 1991-92 and 1992-93. But higher production could not be sustained due to natural calamities, mainly floods and droughts. The devastating late flood of 1995 in the north-western region of the country demonstrated how uncertain our programme of rice production is.

The increased production of rice during the 70s, 80s and the first half of the 90s came entirely from higher yields per unit area. In fact, the total area under rice declined slightly during this period. Enhanced yields were possible due to the introduction of the high yielding varieties associated with scientific production techniques. At present rice is grown on an area of about 10.25 million hectares which is nearly 73% of the total cropped area of the country and the annual production is around 17.878 million tons (average of 5 years, 1989-90 to 1993-94). The yield per ha is 1.80 tons of husked rice. The figures for production fluctuate sharply from year to year with the environmental conditions.

Accordingly to the official estimates, the present rate of growth of population in Bangladesh is 2.03% per year and it is likely to come down to 1.5% in 10 years. A projection of population and demand for rice during the next 30 years is shown in the table. There is an apprehension that from now onwards the gap between the demand and production of rice will start widening gradually. It stems from the following facts/assumptions.

- In many places the yields of the high yielding varieties are showing a tendency to stagnate or even decline in spite of the use of similar methods in its production as before. Soil related problems, particularly deficiency of micro-nutrients resulting from over use of the soil are suspected to be mainly responsible for this.
- Until now it has been possible to raise the area covered by HYVs to only

about 50% of the total rice area. It will be very difficult, if not impossible, to increase the area under these varieties.

- The vagaries of nature manifested by unusual occurrence of floods and droughts, both in intensity and timing, has increased in recent years making production of rice crops more uncertain.
- The pace of development of irrigation facilities has become slower than before. Use of surface water for irrigation should not be expanded further in order to protect fish resources and economical balance.
- Due to higher prices, use of fertilizers and plant protection chemicals will decline resulting in a negative impact on rice yield.

In view of the above, the question raised by the concerned quarters is whether it will be possible to raise the yield to the levels needed to meet the demand. It should be mentioned here that there is hardly any possibility to bring more land under rice, rather the existing area is likely to shrink. The additional production must therefore come from increased yields. The gap between

demand and production may be narrowed in three ways.

1) Attaining sustainable higher yields

There is still scope for raising rice yield by the following means.

- The yield potential of the 31 HYVs developed by BIRRI ranges from 2.5 to 3.7 tons per ha, but the actual yields obtained by the farmers from these varieties are much lower (slightly above 2 tons) due mainly to two reasons
 - Most farmers cannot/don't grow crops in the recommended methods using inputs at the optimum levels.
 - The agro-ecological conditions in a major part of the rice lands are not conducive to high yields. Flood prone river basins, coastal saline tracts, drought-prone Barind tracts are included in this category. The first problem can be solved through better extension service and supply of inputs, while the second through the development of special varieties and

Continued on page-9

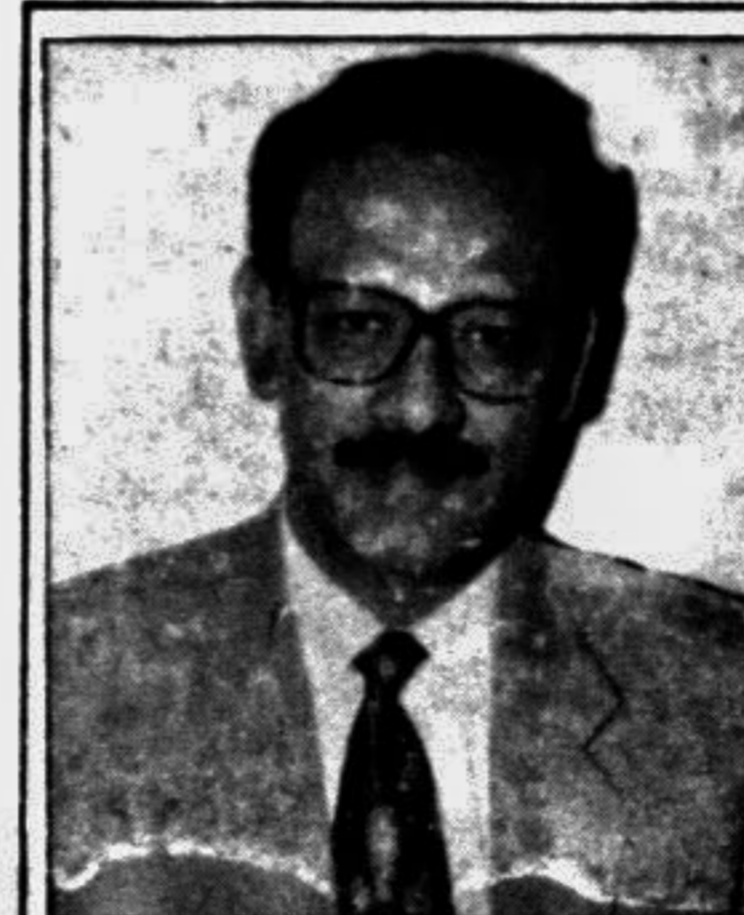
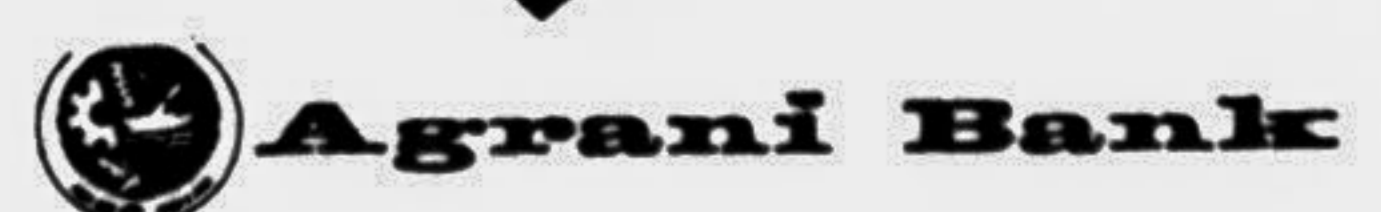


MESSAGE

Rice is synonymous with life in Bangladesh. The cultivation and all that goes with the production and consumption of rice form an integral part of the tradition, life style and culture of our people. In the distant past, the production of this staple cereal in the country was enough to meet the food requirement of the people. But mounting population pressure on the one hand, and huge, recurring crop losses due to such vagaries of nature as floods, droughts, cyclones etc. on the other, drove a wedge between the food requirement of the teeming millions and the rice output of the country. At this critical juncture of the history of agriculture in the country, the Bangladesh Rice Research Institute (BIRRI) was established with the noble objective of providing our toiling farmers with the tools they needed most — high-yielding varieties and improved crop production technologies — to increase rice production substantially. Twenty-five years have elapsed since then, and BIRRI has now entered the Silver Jubilee year earning, in the mean time, reputation nationally and internationally as a research centre of excellence. To date, BIRRI has developed several high-yielding varieties of rice and production technologies for their cultivation in farmers' fields. The cultivation of these BIRRI developed varieties by our farmers throughout the country has doubled the rice output. The nation is now confidently looking forward to achieving self-sufficiency in food very soon. This great achievement at the national level has been made possible largely by the continuous dedicated work of the scientists and other employees of BIRRI. I congratulate them most heartily at this auspicious moment of the Silver Jubilee of their organization. And, I do hope, BIRRI researchers will continue their good work in future so that the long cherished dreams of our millions of farmers of fields beaming with golden sheafs of paddy and of granaries full to the brim with grains of rice may come true in the near future.

Khaleda Zia
PRIME MINISTER
THE PEOPLE'S REPUBLIC OF BANGLADESH

Courtesy



Message

Rice is the staple food of Bangladesh. The question of providing our teeming millions with enough food is essentially related to the ups and downs in the production of rice in the country. Although the physiography, climate and environment of Bangladesh are highly suitable for rice cultivation, a yawning gap between the demand and supply of food, or in other words, rice, showed up in the country since the early sixties due to the population explosion. The need for substantial increases in rice output through the modernization of the production processes, and the need for accelerated and intensified research on all aspects of rice production to achieve this, began to be keenly felt by the agriculturists and government planners of the country. It was with this mission of research to facilitate the needed increase in the production of rice in Bangladesh that the Bangladesh Rice Research Institute (BIRRI) was established on October 1, 1970. The institute has now entered

its Silver Jubilee year. These 25 years of BIRRI's existence have been most fruitful. The institute has developed 31 high yielding varieties of rice and production technologies for their cultivation. These varieties and production technologies mainly contributed to increasing the rice output in Bangladesh from 1.00 crore metric tons in 1969-70 to 1.94 crore metric tons in 1992-93; that is, rice production in the country has almost doubled within a period of 25 years. Bangladesh is now very close to achieving the long coveted target of self sufficiency in food. I congratulate the scientists and workers of all levels of BIRRI for their very important contribution to the nation's proud struggle for prosperity. However, I must remind all concerned in BIRRI that, there is hardly any scope for complacency. A much tougher challenge awaits them, that of developing newer varieties and technologies to boost rice production to at least 40 million tons, just enough for the projected population of 170 million by the year 2020. I am confident that BIRRI's devoted team of researchers will successfully face this challenge and will guide BIRRI along to the proud celebration of its Golden Jubilee 25 years from now.

Abdul Mannan Bhuiyan
Minister
Ministry of Food and Agriculture
Government of the
People's Republic of Bangladesh

dedicated service led to attaining this success. We should not, however, feel complacent to this success but remain mentally prepared to face the future challenge for rapid progress towards the fulfilment of the country's food demand. I hope BIRRI will succeed to develop super rice and other technologies in the very near future. I congratulate BIRRI's progress and wishing them all success.

M. Akhtar Ali
Secretary
Ministry of Agriculture
Government of the
People's Republic of
Bangladesh

for its outstanding contributions. Two decades ago rice fields were not suitable for cultivation particularly in the spring season because of the lack of technologies. BIRRI has succeeded in bringing the breakthrough by introducing 31 MV rice and other appropriate technologies. As a result, one can now see miles of green fields covered with rice during spring. Twenty-five years of BIRRI is, therefore, not only a great success in rice research but has set a milestone for the whole nation. I express my heartiest thanks to my colleagues at BIRRI whose