



## RALLIS INDIA LIMITED

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K. DORAI RAJ  
G.M. (FERTILIZERS)  
AGROCHEMICAL DIVISION



Dear Dr. Swaminathan,

I was the editor of 'TATLER', in Coimbatore Agricultural College in 1968. You were kind enough to contribute the enclosed article in that magazine. Since then I have been reading your articles and listening to your radio talks. When I visited IRRI, Manila, it was a proud moment for me, for I was able to see the Mecca of Agricultural Sciences in the East from where you have contributed considerably.

I am working for Rallis India Limited, a leading Tata Company in the field of Agricultural Inputs Distribution (Hybrid Seeds, Fertilizers and Plant Protection Chemicals) as **General Manager (Fertilizers)**. I feel I could contribute to some extent by way of gathering statistics or conducting surveys that would be of use to the MSS Research Foundation without any obligations from the foundation.

It would be a great honour for me if I could meet you for a few minutes during my next visit to Madras to seek a message for our extension workers and sales officers through our company's internal news letter. If you could kindly indicate your willingness, I shall meet you at your convenience.

With kind regards,

Yours sincerely,

  
K. DORAI RAJ

Dr. Swaminathan  
MADRAS.

MSS/RM/ 8139.  
5 August 1996

Shri K. Dorai Raj  
General Manager (Fertilizers)  
Rallis India Limited  
Ralli House, 21 D. Sukhadvala Marg  
Mumbai - 400 001.

Dear Shri. Dorai Raj,

I thank you very much for your kind letter dated 1 August. I am happy to learn about the work you are doing for Rallis India. Please do visit us when you come to Madras next. I also thank you for reminding me of a paper I wrote in 1968 on "Need there be a Famine in 1975?". I am glad we did not have any famine either in 1975 or later.

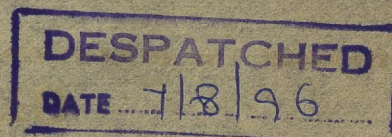
With warm personal regards,

Yours sincerely,



M.S. Swaminathan

*Back to me*



## NEED THERE BE A FAMINE IN 1975?

DR. M. S. SWAMINATHAN

(Director, Indian Agricultural Research Institute, New Delhi-12.)



By 1975, the population of India is expected to reach 630 million. For the present population of 494 million and the anticipated population of 360 million in 1975, the requirements of the major food items based on optimum nutritional intake are as follows :

	1966	1976
	(Figures in million tonnes)	
Cereals	69.39	89.46
Starchy roots	7.30	9.45
Sugar	8.73	11.26
Pulses	18.15	23.55
Total	103.57	133.72

With the new agricultural technology, it is possible to produce easily a minimum of 5 tonnes per hectare per year from two crops and since, we have even now over 30 million hectares with irrigation facilities, there will be no difficulty in producing the food India would need in 1975. In fact, if farmers are enabled to adopt the new scientific innovations on a large scale and if the present agricultural strategy is taken to its logical conclusion, we should have large quantities of rice and tuber crops which are surplus to our requirements. Agricultural Science is progressing very rapidly in enhancing the yield potential of our food crops. At the Indian Agricultural Research Institute, there are currently wheat varieties in the breeder's assembly line which may yield as much as 10 tonnes per hectare. Similar progress is in sight in rice, maize, and *Sorghum* as well as in pulse crops.

In the peak drought year of 1965-66, food production dropped by 17 million tonnes, which is 19 per cent below that of the peak production year 1964-65. Since this was the worst drought year in over 40 years, about 20 per cent margin may be regarded as the upper limit of the cushion in production which

would be needed to ward off famine in a bad year. At present 37 per cent of the total food production is contributed by the areas with assured irrigation, 42 per cent by the areas dependent on monsoon-based irrigation sources and 21 per cent by the areas where rainfall is scanty and precarious. The instability in the production of the latter two areas can be easily off-set by saturating the first area with the new technology. Thus, there is no scientific excuse for a famine in 1975.

If a famine does occur, it will be largely due to our failure to canalise the climate of confidence and the enthusiasm for the adoption of new practices now prevailing among our farming community. A famine can therefore occur only due to administrative disarray arising from political failings.

Famines may, however, occur during the latter part of this century not because of any Malthusian relationship between population growth and food production but because of a lowered intellectual potential of the population in the age groups 16-30, arising from the prevailing protein hunger in pre-school children. Studies of Dr. Joaquin Gravioto of Mexico indicate that I. Q. score deficits of 18 to 22 points may occur in children exposed to nutritional deprivation. The widespread poverty and the low purchasing power of a large segment of our population have to be eradicated and this can in turn be done only through agrarian advance.

Even if seeds and water are available, it may be asked whether we can ever produce the quantities of fertilizer needed for increasing production. Here again, science is opening up altogether new avenues. If low cost electricity is produced through nuclear reactors, ammonia fertilizer can be produced from air. Science has thus opened up altogether new vistas in crop production. Our country, which is blessed with abundant sunlight and environmental conditions which permit crop growth throughout the year, can soon become a leading exporter of rice and other grains, if only we embark upon a dynamic programme of repatterning the morphological and physiological architecture of our crop plants.