



**SUSTAINABLE FOOD SECURITY  
FOR ALL BY 2020**  
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**SUMMARY NOTE**

**Panel Discussion:** Complementary Technologies, One Goal: Approaches to Sustainable Food Production

**Panelist:** K. Rajarathinavelu, Farmer, Allivaram Village, Tamil Nadu, India

Respected Chair Person, Ladies, and Gentlemen!

I feel extremely happy to speak few words in this International forum and I immensely thank IFPRI and the Tamil Nadu Agricultural University on this occasion.

I, Rajarathinavelu, a farmer and a son of a farmer hailing from Allivaram Village in Vellore District, Tamil Nadu, India.

Agriculture is considered as the primary sector in our country, giving employment for nearly two-thirds of her population. Following the same trend, agriculture is the main stay of our village and rice is the prime crop cultivated by our forefathers and of course by us too.

Rice is the staple crop of our state and it is cultivated all-round the year and 11 distinct seasons are observed in rice cultivation in the state. Vellore district has sizable area under rice crop and it occupies nearly 30 percent of its total cultivated area in our district rice is cultivated in three seasons in a year.

In the days of my father's tenure, developments in agriculture were constrained by little quantity and highly fluctuated levels of rice productions yield of rice failed to sustain the requirements of the farmers family and it was reflected in the standard of living of the farmers. This phenomenon was much pronounced especially in the holdings of small and marginal farmers who have very small acreage of land area under plough.

The traditional varieties like *Kichadi Samba*, a long duration superfine variety was used for daily consumption purposes as raw and boiled rice; and *Kullangkar*, a short duration bold variety was used for preparation of South Indian rice dishes like Idli, Dosai, etc. Agriculture was performed in traditional lines, without adding any chemical nutrients or pesticides. Animal power was the only source of farm power to carry out land preparation. Seeds are farm produced and seeds for the next season will be selected from the harvested produce, based on the phenotypic character of the seeds. Nearly 150 kilograms of seeds per hectare, irrespective of the variety were sown. Farmyard manure and green leaf manure were the main sources of nutrients. Neem and Pongamia were the major constituents of green leaf manure. Approximately 40, 15, and 35 kilograms of N, P, and K respectively would be added by the way of addition of organic manure. Regarding plant protection aspect, grasshopper infestation was considered as a pest problem. Spraying of cows urine, extract of neem cake were resorted to keep the pest at bay. Damage due to disease incidence was not perceived by the farmers.

The labor availability was plenty and working hours were also longer. The depth of wells will be not more than 30 feet and lifting of water was done using bullock power. In spite of the substantial efforts, these crops, wooing to their inherent capacity has yielded an output that does not match the requirements of the farmers. The meager production had serious impact on the village economy. The

share of rice, which is the staple food, in the farm family's budget was huge and automatically it curtailed the funds for other developmental purposes for the family. The standard of living of small and marginal farmers and agricultural laborers was precarious.

In this situation, a wonder happened in our village. My father is an innovator and he has introduced a short stature rice variety called IR-8 in our village which is a boon, not only to our family or to my village or to my district or to my state but to the entire India. For the first time, our village folk had seen such a number of grains in a panicle and large number of tillers in a clump. All the farmers, right from marginal to large, were extremely happy and considered this variety as a savior for them. The dawn of this revolution has opened the gates of prosperity in our village.

The process of mechanization slowly crept in our village. Installation of oil engine to draw water from the well was started in 1965 and gradually more area had the benefits of assured irrigation, which led to an increase in area under rice cultivation. Electrification of pumpsets was really a fortunate thing and we had electricity supply from 1969 onwards. Now in our district, nearly 94,000 wells are energized by electricity.

A big farmer in the nearby village purchased tractor during 1974 and tractors progressively occupied the prime position in the performing various agricultural activities. Because of this dream machine we could be able to complete the land preparation in time. The population of the tractors in our district has risen to 1,165. The farmers opted chemicals to control rice pests. Stem borer, leaf folder, and brown plant hopper were the major rice pests of our area. Acquiring the knowledge about the ill effects of pesticides, now the farmers depend upon the plant derivatives like neem seed extract, neem cake, and other eco-friendly pest management strategies. Right from the late 1990s, cases are registered in our village where not even a single dose of plant protection spray was resorted to in rice cultivation. In the nutrient scenario also, we have shifted to need-based fertilizer application. Judicial combination of organic and inorganic sources are adopted. Farmers in our village apply *Azospirillum* and Blue Green Algae in rice cultivation.

The new technology namely seed-fertilizer-plant production-machinery and irrigation worked excellently in our village. The yield recorded an unimaginable threefold increase, and farmers could be able to get 8,500 kilograms per hectare. Hence, the folks thought that this variety IR-8 was a god send one. In a gesture of paying tribute to the variety, some of the farmers in our state had baptized their children name as IR-8. The characteristic features like high-yielding capacity and non-lodging nature were the main reasons for preference of this variety by farmers.

Successive introduction of high-yielding varieties had sustained the tempo of increased rice production. Since IR-8 variety had bold type of grains, an urge for other improved varieties increased among the farmers. Accordingly, new varieties like ADT-27, IR-20, and white PONNI were introduced and these varieties gained the popular support from the farmers. In the 1980s, varieties like IR50, ADT-36, TKM-9, and CR-1009 were the promising rice varieties among the farmers of our village. In the 1990s, rice varieties like ASD-19, ADT-39, TKM-11, and improved white PONNI were the popular varieties among the farmers.

Now technology is available at our doorsteps, thanks are due to the extent machinery of our state government. We adopt the seed rate, nursery duration, fertilizer dosage, plant protection schedule, irrigation management, and other postharvest technologies as recommended by them. The technology which helped to triple the yield have also paved the way to sustain the same. We could be able to reap, not only the additional rice grains but also the other benefits of green revolution. The drudgery of labor has considerably reduced due to mechanization and now laborers have enough time and energy to take care of the developmental activities of their family.

The increased yield on a sustained way has many constructive happenings in our village. The benefits of green revolution have trickled down to the small and marginal farmers. Their standard of living has increased in the village. Now they send their children to schools, even to highly paid private schools and bestow their attention in their education. In the recreation and other amenities, now they possess radio sets, television sets, and mopeds. In this context, I wish to recollect the fact that prior to 1970s only single-digit number of radio sets is available in our village. Interestingly, during early 1980s, possession of black and white television set was considered as status symbol and an element of rich and pomp in our village. Now the trend has changed and almost all the house holds possess any one of the above amenities. The grassroot-level persons in the society are now able to afford better medical facilities. The basic feature lying in all the above phenomena was more rice production on a sustained manner and obviously, but for green revolution these benevolent happenings would not have occurred in our village. We, the farmers, are ever indebted to the agricultural scientists for bringing such a revolution in farm sector which not only improved the economy of the country but also the economy of the farmers like me.

I profusely thank the authorities of International Food Policy Research Institute, Washington D.C., for giving me this great opportunity to present our experiences of green revolution in India at this International forum. Once again, I thank the Tamil Nadu Agricultural University for selecting me to present the benefits of green revolution in our state and country.

*Note: The views expressed in this summary note are those of the author and are not necessarily endorsed by or representative of IFPRI or of the cosponsoring or supporting organizations.*