P.ISSN: 0971-8184 II E ISSN: 0976-1926
DOI: https://doi.org/10.56093/ijpgr.v39i3.184851

Indian Journal of Plant Genetic Resources

BOOK REVIEW

Code Paroda: Much More Than a Biography

Code Paroda: **A Memoir, by Dr R.S. Paroda as narrated to Dr Sanjay Kumar and Arun Tiwari**

From the title of this book, I had assumed that it presents the story of one distinguished agricultural scientist. But after reading the book, it becomes clear that it is much more than a biography or a personal memoir. I found it to be a window into the making of modern Indian agriculture and into the larger science-led transformation of agriculture across the developing world.

The book takes the reader from a small village near Ajmer to the highest levels of Indian and international agricultural science. But its real value lies not simply in describing Dr Paroda's achievements. It shows how agricultural transformation happens—through science, institutions, genetic resources, collaboration, leadership, persistence, policies, and a deep understanding of farmers and their environments. The book therefore becomes simultaneously a personal journey, a history of the development of a robust ecosystem for agricultural research and development, a lesson in scientific leadership, communicating and influencing policymakers, and a vision for the future.

The structure of the book itself reflects this wider purpose. Its four parts—Making of the Man, At the Helm, Ascend, and Legacy—move from the making of a scientist to the building of institutions, the role at the national and international level and finally to questions about the future of agriculture.

From a village landscape to a global agricultural vision

One of the most interesting aspects of the book is that the roots of Dr Paroda's scientific thinking can be traced to his childhood. Growing up in Rajasthan, he saw first-hand the difficulties of farming under harsh environmental conditions. The book describes the remarkable ability of plants such as *khejri* and *tumba*, and animals adapted to the desert, to survive under severe water and climatic constraints. These early observations became, perhaps unconsciously, his first lessons in biodiversity, adaptation, sustainability and ecological resilience.

His decision to study agriculture was therefore not simply a career choice. He had already seen food insecurity, resource constraints and the vulnerability of farmers. By the time he completed school, he had decided that he wanted to learn how to grow better crops and help farming communities.

This is an important message of the book: science becomes powerful when it is connected to a real problem.

The science behind India's agricultural transformation

Code Paroda also provides a fascinating window into the science behind India's movement from food scarcity to food security. It makes clear that agricultural revolutions do not happen because of one technology or one scientist. They happen when many elements like genetics, breeding, soil science, agronomy, water management, engineering, extension, institutions, policy and, above all, farmers come together.

The book explains that agriculture cannot operate in isolation. It is an interconnected system of Crop science, animal science, soil science, biotechnology and agricultural engineering. The science-led agriculture must ensure productivity while protecting natural resources. The chapter **Science Behind the Surplus** explores this transition from subsistence to agricultural surplus and underlines that India's agricultural success was not merely a policy achievement or a Green Revolution story. It was fundamentally a science-led transformation.

Knowing our resources: the great lesson of germplasm

For me, one of the strongest themes of the book is its treatment of plant genetic resources and germplasm

© IJPGR, 2025. Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit https://creativecommons.org/licenses/by-nc-sa/4.0/.

conservation. Dr Paroda makes a simple but profound point: **diversity is security**. A seed is not merely a seed. It carries genetic possibilities accumulated through centuries of adaptation. A crop variety may contain genes for drought tolerance, disease resistance, heat tolerance, nutritional quality or adaptation to difficult soils. Once genetic diversity is lost, those possibilities may be lost forever.

This makes the story of India's National Gene Bank particularly significant. The book describes Dr Paroda's role in establishing the National Gene Bank at NBPGR, New Delhi, and notes that it conserves more than 0.47 million seed accessions. It also describes his involvement in strengthening genetic-resource systems for animals, fish, microorganisms and insects.

The book takes this idea beyond India. The account of strengthening the ICRISAT gene bank is particularly illuminating. Germplasm from many countries and crops is preserved not as an academic collection but as raw material for the agriculture of the future. The book points out that climate change may make some crops and traits much more important in the future than they are today. Gene banks are therefore not museums; they are insurance for food security.

From individual effort to concerted action

Another major lesson is the importance of concerted effort. Dr Paroda's career demonstrates that major agricultural changes cannot be achieved by isolated individuals or institutions. They require networks, scientists working with farmers, governments working with research institutions, universities working with industry, and countries sharing knowledge and genetic resources.

His role in strengthening ICAR and the National Agricultural Research System is central to the story. The book records efforts to establish or strengthen about thirty research institutions under ICAR and to create systems in which scientific institutions remained connected to farmers and society.

The international dimension is equally impressive. Through APAARI, GFAR and other platforms, Dr Paroda worked to connect agricultural research organisations across Asia, Africa and other parts of the Global South. The creation of platforms such as the Asia and Pacific Seed Association and the Global Forum on Agricultural Research reflects a conviction that the world's agricultural problems cannot be solved by countries working separately.

The message is particularly relevant today: knowledge must travel, institutions must cooperate, and solutions must be adapted to local conditions.

Agriculture is ultimately about people

Despite the impressive account of institutions, gene banks, policies and scientific achievements, the book never loses sight of the farmer. Research cannot remain inside laboratories and universities. It must reach farmers, and farmers themselves must become partners in creating knowledge. The future requires a more inclusive agricultural research and extension system based on participation, trust and shared learning.

The later chapters increasingly ask what agriculture should mean for the next generation. The book argues that young people do not necessarily reject agriculture; they reject stagnation. Agriculture must become a profession that provides knowledge, technology, income, lifestyle, dignity, and opportunity. Youth can become entrepreneurs, technology providers, service providers and innovators rather than being old-fashioned cultivators.

From Green Revolution to sustainable agriculture

Another important contribution of the book is that it does not romanticise the past. It recognizes the enormous achievements of the Green Revolution but also acknowledges the new challenges of soil degradation, water stress, climate variability, loss of biodiversity and declining attractiveness of agriculture to young people.

To achieve the **Evergreen Revolution**, the next agricultural revolution must combine productivity with sustainability. The book refers to approaches such as no-till farming, micro-irrigation, laser land levelling, crop diversification, biofertilisers and biopesticides, while also emphasizing farmer participation and natural-resource management. The progress in agricultural productivity needs to continue without destroying the ecological foundations on which agriculture depends.

Climate change makes this even more urgent. The book's later reflections argue that resilience must become central to agricultural thinking. Seeds, soils, water and markets must all be considered in relation to a changing climate.

The real legacy: building people and institutions

Perhaps the deepest lesson of Code Paroda is that the greatest achievement of a scientist is not necessarily a paper, a variety or even an institution. It is the capacity created in other people and institutions to continue the work. Dr Paroda repeatedly emphasises mentorship, young scientists, institutional reform and collaborative leadership. His philosophy of leadership is closer to stewardship than authority, as also personally experienced by me as a scientist in the ICAR.

The book therefore offers an important lesson for scientific administrators and university leaders: **"Build institutions that can outlive you, develop people who can surpass you, and create systems in which good science can flourish"**

A book for the future, not only a record of the past

What finally distinguishes Code Paroda is its forward-looking character. The book is not simply asking the reader to admire the career of a remarkable agricultural scientist. It asks a much larger question: What kind of agriculture does humanity need for the future?

The answer emerging from the book is clear. We need agriculture that is scientifically advanced but ecologically responsible; productive but biodiversity-rich; globally connected but locally sensitive; technology-driven but farmer-centred; and economically attractive to young people.

Ten-point Code

The final chapter, **"Code Paroda"**, is, in my view, the intellectual culmination of the memoir. It moves beyond autobiography and converts Dr Paroda's decades of scientific, institutional and policy experience into **ten broad principles for the future of agriculture**—climate resilience, freedom and responsible use of science, fairness to producers, stewardship of the commons, nutrition beyond calories, empowerment of women and youth, digital connectivity, farmer collectives, strong public science, and finally the conversion of declarations into measurable action. What makes the chapter particularly valuable is that each principle follows a consistent pattern: **recognise the problem, draw lessons from experience, articulate an ethical or scientific principle, and translate it into a practical "code" for action**.

Overall assessment

Code Paroda should therefore not be read merely as the biography of Dr R.S. Paroda. It is better understood as a story of the evolution of agricultural science itself—from plant breeding and food production to genetic-resource conservation, institution-building, international cooperation, sustainability and climate resilience.

It is a book about science-led revolution, but also about the wisdom needed after the revolution.

It reminds us that food security depends not only on producing more food, but on knowing and protecting the resources that make future production possible. It reminds us that germplasm is a form of national and global wealth. It shows why gene banks matter, why biodiversity matters, why institutions matter and why international cooperation matters. Most importantly, it demonstrates that agricultural progress is never the work of one person. It is the result of many minds, many institutions and many generations working together toward a common purpose.

In that sense, the title Code Paroda is particularly appropriate. A code is a set of principles that can guide action. The book leaves behind such a code: respect science, conserve diversity, know your resources, build institutions, work together, listen to farmers, nurture young people, use technology responsibly, protect the environment and keep agriculture connected to human dignity.

That is why Code Paroda is much more than a biography. It is a window into India's agricultural transformation, a record of the evolution of global agricultural science, and, perhaps most importantly, a guide to the kind of agriculture the future will require.

Dr Rameshwar Singh
Founding Vice Chancellor, Bihar Animal Sciences University (BASU), Patna
Former Project Director, Directorate of Knowledge Management in Agriculture (DKMA), ICAR, New Delhi
Email: rsndri@gmail.com