



KhetiValah
Global Agri Magazine

GOVT Policies
Agri News
Agri Innovations
Volume: 03
Issue: 06
July 2026

A FARMERS IKIGAI

"A Reason For Being"



CIP
INTERNATIONAL
POTATO CENTER

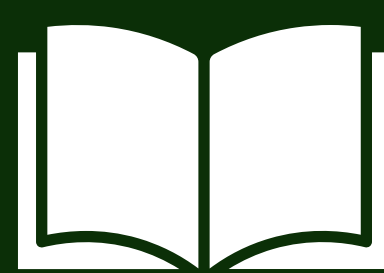
Dr. Sudhanshu Singh



Director, CIP South Asia Regional Center
(CSARC), Agra
Regional Director – South Asia, International
Potato Center (CIP)



SCAN TO
SUBSCRIBE



An E-magazine
Celebrating the Efforts
of Growers



GLOBAL AGRI CONCLAVE 2026

KhetiValah Global Agri Conclave 2026

(Offline & Online | Global Participation) GnanaYagna in Agriculture
Where the world gathers to share agricultural wisdom **November 2026**
15 Days | 15 Topics | One Global Agri Vision | 24hrs insights |
720 Speakers | 720 Slots | 48 Slots per day

Why KVGAC-2026?

- 15 Curated Global Agri Themes
- International Speakers & thought Leaders
- Farmer-Centric Knowledge Dialogues
- AgriTech, Climate & Sustainability Focus
- Policy, Practice & Innovation Convergence
- Global Networking & Strategic Partnerships



We Invite Participation From:

Global & Indian
Speakers / Subject
Experts

Corporate & Supporting
Partners

Advisors &
Mentors

Volunteers &
Changemakers



Knowledge Partners
& Academic
Institutions

AgriTech &
Rural
Startups

Country Coordinators
(Worldwide)



Join the Global Agricultural Knowledge Movement
For Partnerships & Participation: KVGAC@kvconclave.com

Exclusive Event Website – Launching Soon

KhetiValah Initiative
Dialogue • Knowledge • Impact • Future Agriculture

Scan the QR code



/ kvconclave



www.kvconclave.com



+91 9030302139

#KVGAC26 | #GnanaYagnaInAgriculture | #KhetiValah

EDITORIAL BOARD

July 2026
Bengaluru & Hyderabad , India

+ (91) 9030302139
magazine@khetivalah.com



Scan to connect
on WhatsApp



Shri Lakshman K
Founder & Chairman, KhetiValah.



Shri. CSR Murthy
Chief General Manager (Retd),
NABARD, India.



Dr. N. Sudhakar
Former Director
ICAR - Zonal Project Directorate
(Zone V), CRIDA Campus, Hyderabad.



Dr. Flt. Lt AT Kishore
Director, Dhanwantari Drone Pilot
Academy, Bangalore, Karnataka, IN.



Prof. Vivekananda.D
Adj Faculty IIT Bombay and IIST
T'puram, Co-ord IIRS
ISRO Dehradun Outreach
Programs, Sr Member IEEE, Fellow IIPE



Mr Suresh Gogineni
Managing Director, KhetiValah

DISCLAIMER

All content published in KhetiValah Magazine is based on information received from authors and other sources believed to be reliable. However, the Publisher and Editorial Team do not accept responsibility for any errors, omissions, or outcomes arising from the use of such information. The views, opinions, statements, and images expressed in articles, interviews, and features are solely those of the respective authors/contributors and do not necessarily reflect the views of KhetiValah Magazine or its Publisher. The Publisher shall not be liable for any claims or damages arising from published content. The information provided is for general awareness only and should not be considered professional advice. Readers are advised to seek expert guidance before acting on any information contained herein. All content is copyright protected. No part of this publication may be reproduced in any form without prior written permission, except for fair use with due acknowledgment. Unauthorized use may invite legal action.

Published by Haladhari Communications Pvt Ltd



KhetiValah
Global Agri Magazine
Volume : 3 | Issue 6 | July 2026

Founder's Note

Dear Readers,

Advancing Global Agricultural Knowledge through Science, Innovation, and Strategic Partnerships

It is with great pleasure and honour that we present the July 2026 edition of KhetiValah Global Agri Magazine (e-magazine), featuring valuable insights and expert perspectives from distinguished researchers, scientists, academicians, policymakers, and agricultural professionals from India and around the world.

Agriculture today faces evolving challenges related to climate change, food and nutrition security, and sustainable development. This edition highlights the importance of science-led innovation, international collaboration, and knowledge exchange in shaping the future of global agriculture through expert insights and practical perspectives.

We are honoured to feature Dr. Sudhanshu Singh, Director, CIP South Asia Regional Center (CSARC), Agra & Regional Director – South Asia, International Potato Center (CIP), in the Cover Story Interview of this edition. Dr. Singh shares his perspectives on potato and other root and tuber crops, highlighting their role in strengthening resilient and inclusive food systems across South Asia. We sincerely thank Dr. Sudhanshu Singh for sharing his valuable insights and vision with our global readership.

This edition also features insightful contributions across our knowledge sections, including KhetiGuru, MilletsCorner, Janavanam, KhetiUtsav, Agri Innovation & Policy, Global Events & Conferences, AgriNews, and other special features. We sincerely thank all our authors and contributors for enriching this edition with their expertise. As KhetiValah continues to strengthen its global network of researchers, institutions, and knowledge partners, we remain committed to fostering collaboration and advancing global agricultural knowledge.

We extend our heartfelt gratitude to our authors, interviewees, editorial team, collaborators, readers, and well-wishers whose continued trust and support strengthen our mission of connecting global agricultural communities through knowledge and collaboration.

**Join KhetiValah in its mission to build a
"Wealthier and Healthier World."** 🌍❤️

Jai Bharat !

Regards,
Lakshman K

Founder & Chairman of KhetiValah



KRR BrightMinds School

(PlaySchool to 10th Standard)



Under the Esteemed Supervision of

Dr. Geetha Korrapati (USA)
Ph.D., MS, MBA

International academic exposure
Student-centered mentoring
Career-oriented guidance with
strong academic discipline

KRR Pidugu Junior College

(Zero Pollution Campus)

Intermediate Groups Offered:

■ MPC ■ Bi.PC ■ MEC ■ HEC

SCHOOL
ADMISSION
OPEN

Limited Seats Available

Enroll Now

for a Brighter Future!

Where Excellence Begins...

KRR BrightMinds School

offers value-based, practical-oriented education with a strong academic foundation and deeper conceptual understanding.

Key Features

- Classes from Play School to 10th Standard
- Well-Equipped Science & Computer Laboratories
- Spacious Digital Classrooms with Smart Boards
- Large, Well-Stocked Library
- Separate, Safe & Hygienic Hostels for Boys and Girls
- Efficient Transport Facility
- Zero Pollution, Peaceful Campus
- Guided by Highly Qualified Management & Experienced Staff
- Focus on Conceptual Clarity & Practical Learning
- Strong foundation for IIT, Medical & Civil Services Exams

+91 91 71 9171 62

Tadikalapudi (V), Eluru (Dt), AP

Table of Contents

**As the Food So the Mind
Meghalaya Pineapple Fest 2026**

**06 -15
17 - 22**



DRYLAND CONGRESS 2026

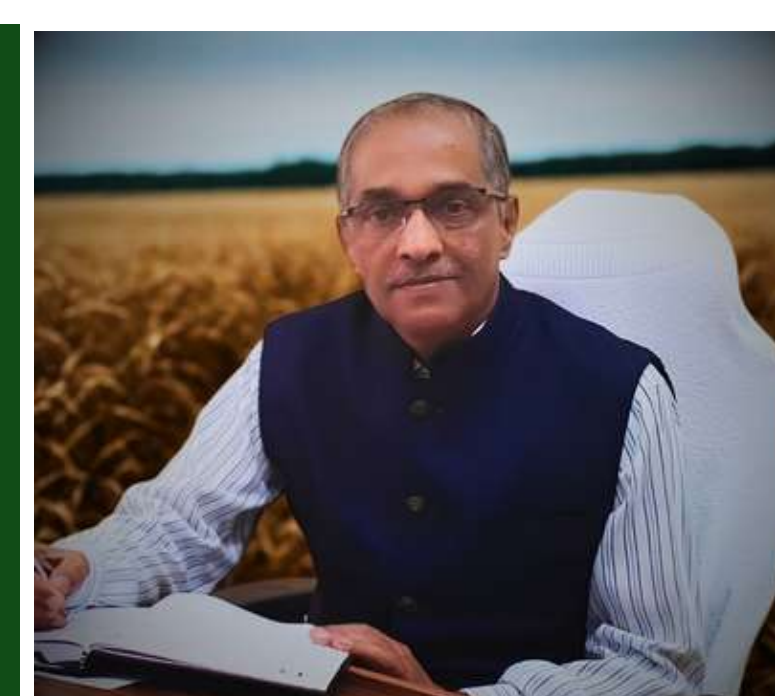


**Dryland Congress 2026
Agri Horticultural Society
Dr. Khadar Vali**

**23 - 25
26 -29
30 - 34**

**Dr Narasimha Nashathri
Dr. Sudhanshu Singh - Cover Interview
Dr. Anurag Saxena**

**36 - 37
38 - 44
46 -48**



CIRDAP

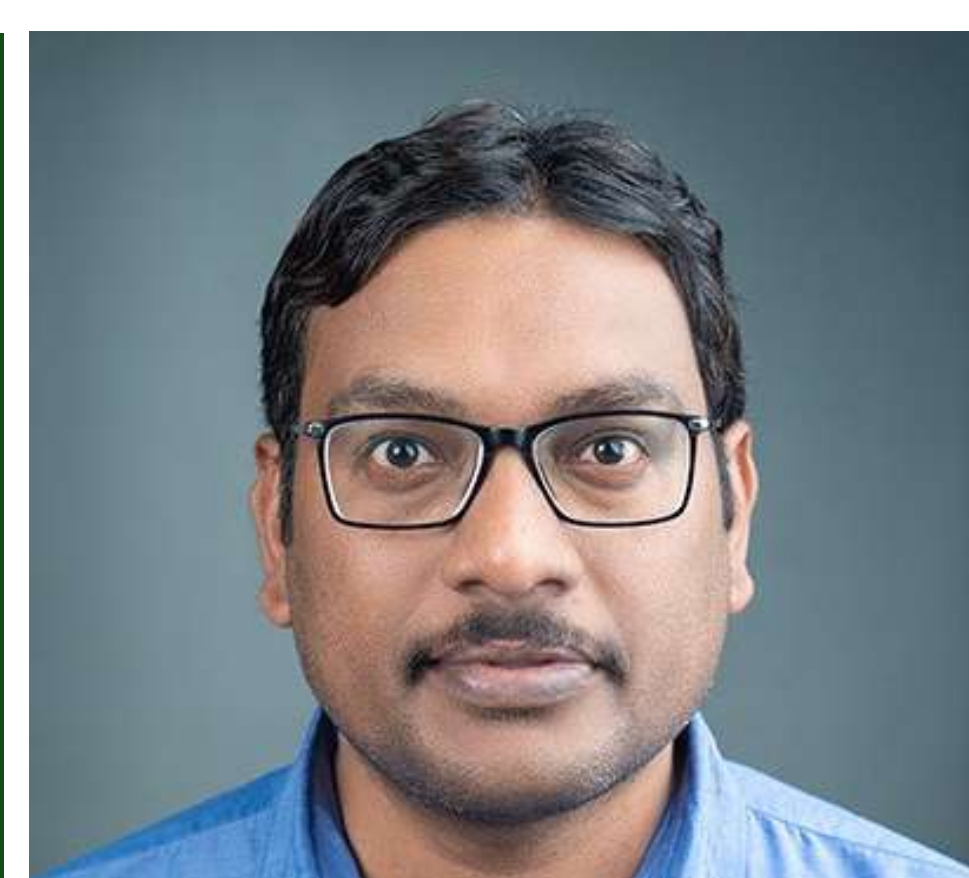


**CIRDAP Zone
Dr Yogesh Sumthane
Dr B Kumar**

**49 - 52
53 - 55
57 - 60**

**Dr. Shailesh Acharya
AgriNews**

**61 - 63
65 - 73**



KhetiValah
Global Agri Magazine
Millets Corner

The views and opinions expressed in the articles published in KhetiValah Global Agri Magazine are solely those of the respective authors. The magazine does not necessarily endorse, support, or reject the viewpoints expressed. Responsibility for the content, accuracy, and opinions presented rests entirely with the individual contributors.

MilletsCorner

Knowledge Partners



MilletsCorner is a dedicated initiative of **KhetiValah Global Agri Magazine** focused on promoting millet-based knowledge, sustainable farming practices, nutrition awareness, value addition, and market opportunities.

Through this platform, we aim to connect farmers, researchers, institutions, and entrepreneurs to strengthen millet ecosystems and encourage climate-resilient agriculture, healthier food systems, and sustainable livelihoods.

यथा अन्नं तथा मनः। As the Food, So the Mind

**How the Humble Millet
Quietly Tunes the Nerves,
the Immune Defences &
the Hormones That Keep
Us Well**



Dr. Anil Kumar

Director Education at RLBCAU, Jhansi & the President of NIRF

Dr. Anil Kumar is a renowned agricultural scientist and academic leader with over 35 years of experience in education, research, and institutional development. His work in genomics, crop improvement, and sustainable agriculture has attracted more than ₹55 crore in research funding and resulted in 250+ publications with over 8,400 citations. As Founder Director (Education) of RLBCAU, Jhansi, he established academic infrastructure and launched student-centric initiatives promoting innovation and entrepreneurship. He has mentored 64 research scholars and received several prestigious national awards, including the Norman Borlaug Memorial Award 2025. Ranked among India's leading scientists, he continues to drive agricultural innovation through startups and the RLBCAU Vision 2047 initiative.



Mr. Manish

Ph.D. scholar Bundelkhand University, Jhansi & Joint Secretary of NIRF

Manish is a Ph.D. scholar in Food Technology at Bundelkhand University, Jhansi, with a strong academic background in Food Technology. He has authored several books and research publications in his field. His innovation portfolio includes six design patents (three Indian and three UK), two published Indian patents, and two copyrights granted by the Government of India. He has secured first positions in oral and poster presentation competitions at state-level conferences. In recognition of his research excellence, he was awarded the prestigious ICSSR Doctoral Fellowship by the Ministry of Education, Government of India.



Dr. Shiv Kumar

Professor Institute of Food Technology, Bundelkhand University, Jhansi & General Secretary of NIRF

Dr. Shiv Kumar, Ph.D. in Food Technology, is a Professor with over 30 years of experience in teaching, research, and academic administration. He has served Bundelkhand University in several key leadership positions, including Dean, Director of IET, Project Director (TEQIP), Finance Officer, and Pro-Vice Chancellor. His contributions to Food Technology include three patents, books, and numerous research publications in reputed journals. Recognized for his academic excellence and commitment to education, he received the Best Teacher Award from Bundelkhand University in 2001.

“
Centuries & continents
away, Hippocrates
arrived at the same
conviction when he
urged that **food be our**
medicine & medicine
our food.”

Long before nutrition became a laboratory science, India had already written its first dietary prescription in a single elegant line: “यथा अन्नं तथा मन्त्रः” — as is the food, so is the mind. Centuries and continents away, Hippocrates arrived at the same conviction when he urged that food be our medicine and medicine our food. Two traditions, one insight: what we eat does not stop at the stomach. It travels to the brain, the bloodstream and the glands, shaping mood, immunity and the steady rhythm of good health.

Today, that ancient intuition is enjoying a remarkable scientific revival — and one of its most compelling ambassadors is a grain so old and so unassuming that many of us once dismissed it as fodder for the poor.

MILLETS.

Small, drought-hardy, gluten-free and astonishingly nutrient-dense, these cereals have stepped out of the shadows to claim the title of superfood, championed through India's National Year of Millets and the International Year of Millets. This feature traces how millets work their quiet magic — not on one organ in isolation, but on the entire conversation between our nerves, our immune system and our hormones.

“
What we eat does
not stop at the
stomach — it
reaches the
mind.”



From Folk Wisdom to Functional Food

Across the world, the way we eat has quietly turned against us. Modern diets — refined, sugary and stripped of fibre — are now woven into a long list of metabolic and mental health complaints.

As developmental disabilities, weakened immunity and mood disorders rise, especially among children, researchers have begun looking backward as well as forward, returning to traditional food systems in search of gentler, sustainable remedies. Within this search, functional foods and nutraceuticals — foods that do more than simply feed us — have become a serious complementary tool in healthcare.

Millets belong squarely to this category. Botanically, they are small-seeded cereals of the grass family Poaceae, and biochemically they are powerhouses .

A single serving delivers meaningful amounts of iron, calcium, zinc and magnesium, a full spread of B-complex vitamins, generous dietary fibre, antioxidants and healthy fatty acids. That composition is no trivia: it maps directly onto the development and maintenance of the nervous system, the immune system, the endocrine glands, muscle, bone and gut — the very systems that matter most for children, busy adults and the elderly alike.

The neurological case is especially striking. Iron and zinc act as cofactors in the production of dopamine and serotonin, the brain's mood and motivation chemicals, while magnesium and the B-vitamins behave like natural calming agents by supporting the GABA pathway, the body's own brake on anxiety.

Add to this the low glycaemic index of millets — typically between 54 and 68 — which keeps blood sugar on an even keel, and you have a grain that supports steady concentration and calmer behaviour rather than the spikes and crashes of refined staples.

Meet the Millets: A Family Worth Knowing



Millets are not a single crop but a whole clan. The familiar members include finger millet (ragi), pearl millet (bajra), sorghum (jowar), little millet, foxtail, proso, kodo, barnyard and browntop. Growers and scientists sort them broadly into major and minor millets according to grain size.

There is also a third, honorary category: the pseudo-millets such as amaranth and buckwheat.

These do not belong to the Poaceae grass family that contains the “true” grains, yet they earn their place at the table by matching real millets in protein, fibre, mineral and vitamin content.

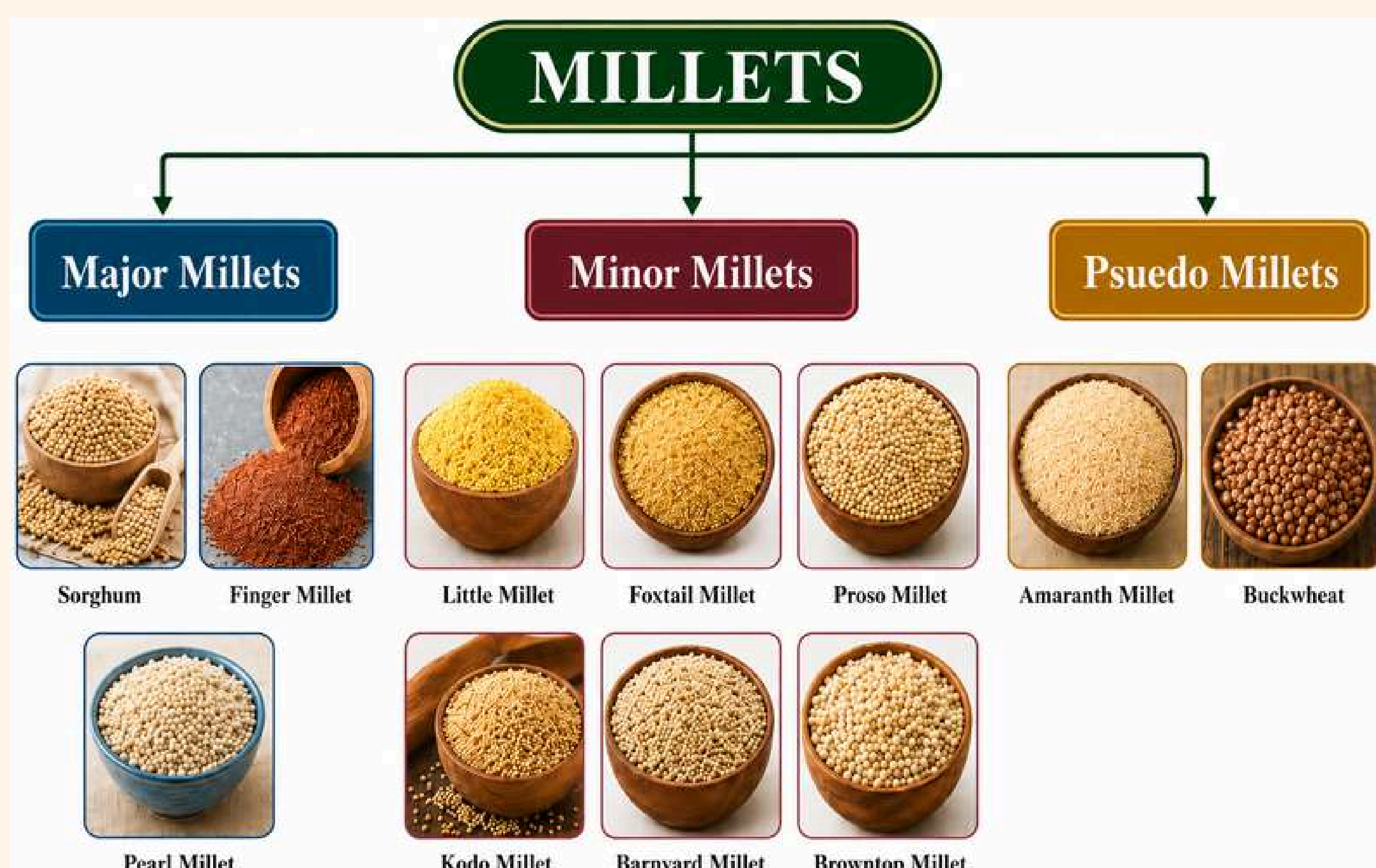


Figure 1. The diverse varieties of millets

A Treasure Chest of Nutrients

It is no exaggeration to say that millets match, and frequently surpass, the staples that dominate our plates. Where rice, wheat and maize offer calories, millets offer calories plus an entourage of dietary fibre, gluten-free protein, antioxidants, vitamins, bioactive compounds and minerals such as calcium, iron, zinc and phosphorus.

Small wonder they have earned the affectionate label “nutri-cereals.” Epidemiological studies repeatedly link millet consumption to a lower risk of diabetes, heart disease and several cancers, alongside stronger immunity against respiratory infection, healthier digestion, better detoxification, higher energy and sturdier nerves and muscles.

For developing regions in particular, millets are a practical answer to the nutrient gaps that quietly undermine public health.

Carbohydrates and Fibre

Depending on species, variety and growing conditions, the carbohydrate content of millets ranges from 50 to 88 per cent. Of this, starch makes up 60–75 per cent, with non-starchy polysaccharides contributing 15–20 per cent and free sugars a modest 1–3 per cent — broadly in the same league as wheat (68–75 per cent), rice (75.9–82.7 per cent) and maize (63.19–74.5 per cent).

What sets millets apart is their fibre, a blend of arabinoxylans, lignin, beta-glucan, cellulose and hemicellulose.

This dietary fibre resists digestion in the small intestine and goes on to do remarkable work: it improves gut health, eases constipation, lowers the glycaemic load of a meal and helps protect against heart disease.

Crucially, it feeds the gut microbiota, which ferment it into short-chain fatty acids that acidify the gut, fend off invading pathogens, sweep out potentially carcinogenic compounds and help lower cholesterol — a chain of benefits now associated with reduced rates of several chronic diseases.

Protein & Fats

Millets are quietly generous with protein, ranging from 5 to 17 per cent. Proso millet leads the pack at 9.5–17 per cent, followed by sorghum (6.2–15.6 per cent) and foxtail millet (8–14 per cent), comparing well with wheat (12–13.9 per cent), rice (6.8–9.5 per cent) and maize (8–9 per cent).

About 80 per cent of this protein sits in the endosperm, 16 per cent in the germ and 3 per cent in the pericarp, and it carries the often-scarce essential amino acids methionine, cysteine and lysine — making millets an excellent, easily digested plant protein for vegetarians and for communities with limited access to animal foods.

Their fats lean healthy too, dominated by unsaturated oleic and linoleic acids and laced with bioactive lipids such as sterols, tocopherols and oryzanols.

High in good fats and low in total fat, millets fit naturally into a balanced diet.



Vitamins, Minerals & Phytochemicals

The B-vitamin roster in millets reads like a brain-health checklist — folate, pantothenic acid, thiamin, riboflavin, niacin and vitamin B6 — backed by calcium, magnesium, potassium, phosphorus, manganese and iron, though exact levels vary with variety and region.

These micronutrients underpin muscle and nerve function, hormonal balance, fluid regulation and bone strength.

Layered on top are phytochemicals such as phytate, phytic acid, policosanols and phenolics, linked to antioxidant, anti-cancer, antihypertensive, anti-diabetic and heart-protective activity.

Among the common types, proso millet carries the lowest total phenolic content and kodo millet the highest.

The table next page sets the millet family side by side with wheat, maize and rice.

Grain	Carbohydrate (%)	Dietary Fibre (%)	Protein (%)	Fat (%)	Vitamins (mg/100 g)		Minerals (mg/100 g)
Sorghum	67.6–79	10.2	6.2–15.6	1.5–4	Riboflavin 0.14; Thiamine 0.09; Niacin 2.8		Ca 27–28; Fe 4.4; P 222–287; Na 7; K 249
Finger millet	65–77	4–20	5–12.7	1–2	Riboflavin 0.19–0.33; Thiamin 0.33–0.48		Ca 240–344; Fe 3.5–6; Zn 1–2; P 150–300; K 350–550; Mn 5–6
Pearl millet	61–62	8–19.5	9–13	1.5–7	Riboflavin 0.2; Thiamine 0.25; Niacin 0.9; Vit E 2		Ca 27.4–48.6; Fe 6.4–16; Zn 2.7; P 289; Mg 124
Foxtail millet	60–75	14	8–14	3–5	Folate 42; Vit E 31		Ca 30–50; Fe 3–5; Zn 2–3; P 200–300; K 250–400; S 100–200; Mg 40–150
Proso millet	68.2–70	8.5–12.5	9.5–17	1.1–3.5	Riboflavin 0.29; Thiamine 0.42; Niacin 4.72		Ca 8–14; Fe 2–3; Zn 1.68–2; P 206–285; Mg 114; K 195
Kodo millet	63–66.6	6.39–15	8–9	1.4–2.5 5	Riboflavin 0.09–0.2; Thiamine 0.15–0.29; Niacin 1.49–2		Ca 15–27; Fe 0.5–2.34; Zn 1.65; P 101–188; Mg 122–147; K 188; Na 3.35; Mn 0.33
Browntop millet	71.32–72	8.5–12.5	8.98–11.5	1.89–4.88	—		Ca 28; Fe 7.72; Zn 2.5; P 276; Mg 94.5; K 60; Na 7.60; Mn 1.99; Cu 1.23
Barnyard millet	51.5–66	6.4–31.7	5–14	2.5–6.3	Riboflavin 0.1; Thiamine 0.4; Niacin 4.2		Ca 14–22; Fe 15.6–18.6; Zn 4.9; P 121; Mg 86.2; Mn 0.7; Cu 0.6
Little millet	65.55	7.72–12.2	7.7–10.1 3	3.89–4.7	Riboflavin 0.05–0.09;		Ca 16–17; Fe 1.26–9.3; Zn 1.82; P 130–220; Mg 91.4–133; K 220; Na 4.77; Mn 0.23
Maize	63.19–74.5	6.69–13.17	8.31–9.2 9	3.29–4.25	Thiamine 0.26; Niacin 1.29–3.2		Ca 10; Fe 2.3; Zn 0.49–8.66; P 348; Mg 139; K 286; Mn 0.35–0.47
Wheat	68–75	1.2–2.9	12–13.9	1.3–3.1	Riboflavin 0.07; Thiamine 0.26; Niacin 2.0		Ca 41; Fe 5.3; Zn 4.6–5.8; P 299.6–357.4; Mg 107.9–117.3; K 324.8–358.7; Mn 1–1.2
Rice	75.87–82.70	0.2–0.85	6.8–9.51	0.6–0.9 2	Riboflavin 0.03; Thiamine 0.12; Niacin 1.5		Ca 23–28; Fe 0.8–1.4; Zn 1.1–2; P 115–223; Mg 25–143; K 115–223; Mn 1.1–3.7



anti-inflammatory and neuroprotective activity, and with it the potential to support cognitive health through better bioavailability and the gut–brain connection.

The Body’s Inner Conversation:

The Neuro-Immuno-Hormonal Tripod –

Here is where the millet story turns genuinely fascinating. For generations, scientists drew firm lines between the nervous, immune and endocrine systems, studying each as a separate kingdom. Biology, it turns out, never respected those borders.

Ever since Claude Bernard’s pioneering work in physiology, we have understood that organs and systems must talk to one another constantly to keep the body in balance — a state called homeostasis. Modern tools have finally let us watch that conversation unfold, and the similarities between the three systems are remarkable.

They share mediators, messengers and receptors. Cytokines and hormones, for instance, jointly drive the hypothalamic–pituitary–adrenal (HPA) and hypothalamic–pituitary–thyroid (HPT) axes during stress.

When the HPA axis fires, the hypothalamus releases corticotropin-releasing hormone, the pituitary follows with adrenocorticotrophic hormone, and the adrenal glands respond by secreting cortisol and DHEA.

Knock this delicate loop out of balance, and the body becomes more vulnerable to a range of diseases.

The Catch & How Cooking Solves It

No grain is perfect, and millets carry a small caveat. Compounds such as dietary fibre, trypsin inhibitors, oxalates, phenols, tannins and phytates can act as anti-nutrients, binding minerals and slowing the digestion of protein and carbohydrate.

Yet the story is more nuanced than it sounds: in modest amounts, several of these very compounds appear to lower the risk of inflammation, coronary heart disease and breast cancer.

The practical answer lies in the kitchen and the mill. Simple primary processing — dehulling, soaking, germination, roasting, drying, polishing and milling — tames the anti-nutrients and makes millets readily usable. Secondary techniques then transform them into appealing foods: fermentation deepens aroma, flavour and texture while cutting cooking time; parboiling reshapes the antioxidant and phenolic profile; frying lifts palatability; malting triggers helpful enzymes;

extrusion boosts mineral bioavailability and shelf life; puffing improves taste and safety; and popping yields crisp, ready-to-eat snacks.

In short, processing is what unlocks the full nutritional value already locked inside the grain.

The Hidden Defenders: Millet Phytochemicals

Beyond the headline nutrients lies a subtler layer of protection. Millets are rich in phytochemicals —phenolic acids, flavonoids, tannins and lignans — bioactive plant compounds that bring antioxidant, anti-inflammatory and antimicrobial powers to the table. By dampening oxidative stress, easing digestion and nudging metabolic pathways in a healthier direction, these compounds help guard against diabetes, cardiovascular disease and cancer.

Variety by variety, the profiles differ, but the common thread is clear: from finger to pearl, foxtail to kodo, each millet brings a distinctive blend of antioxidant

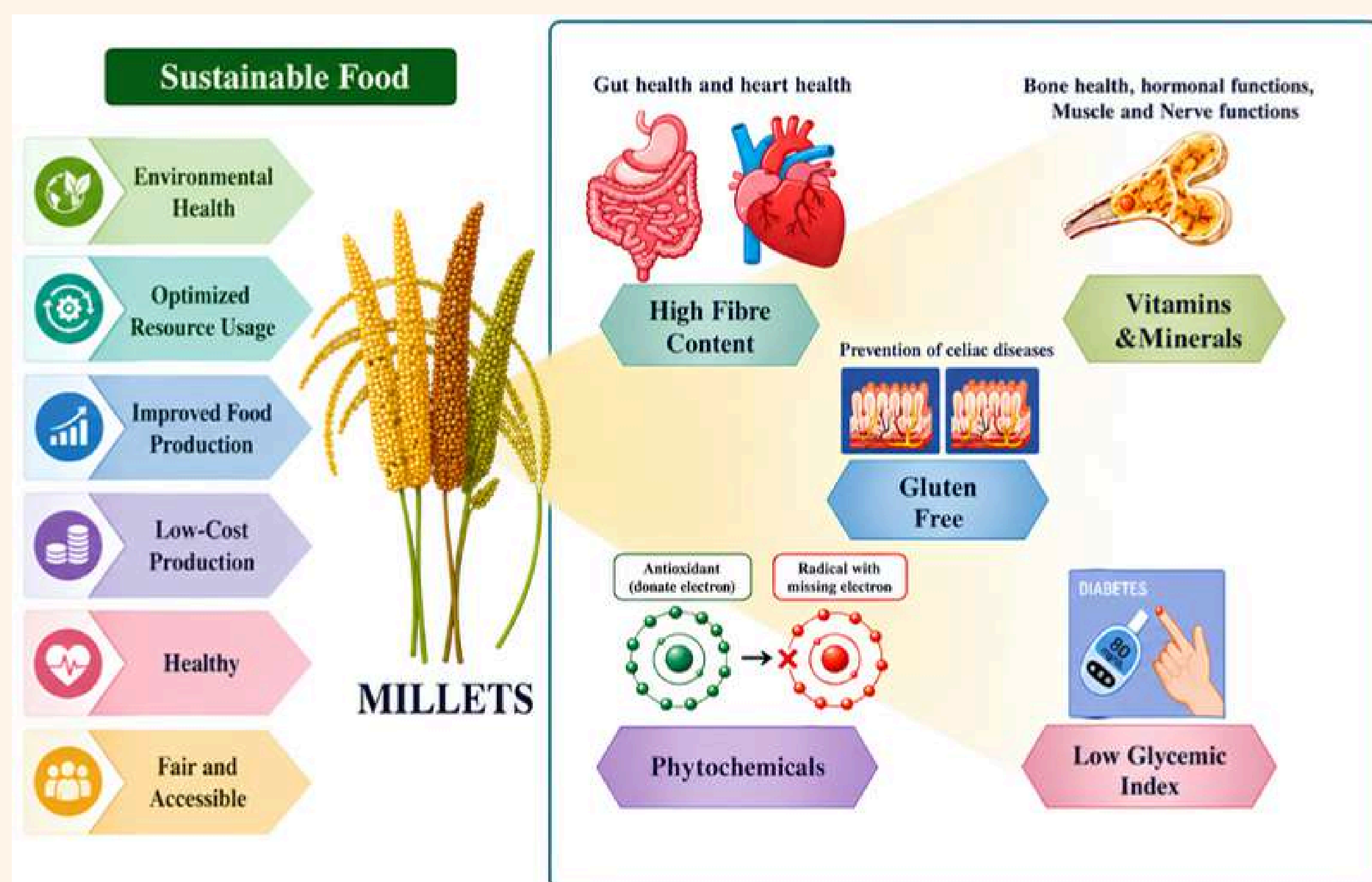


Figure 2. Immune and metabolic networks

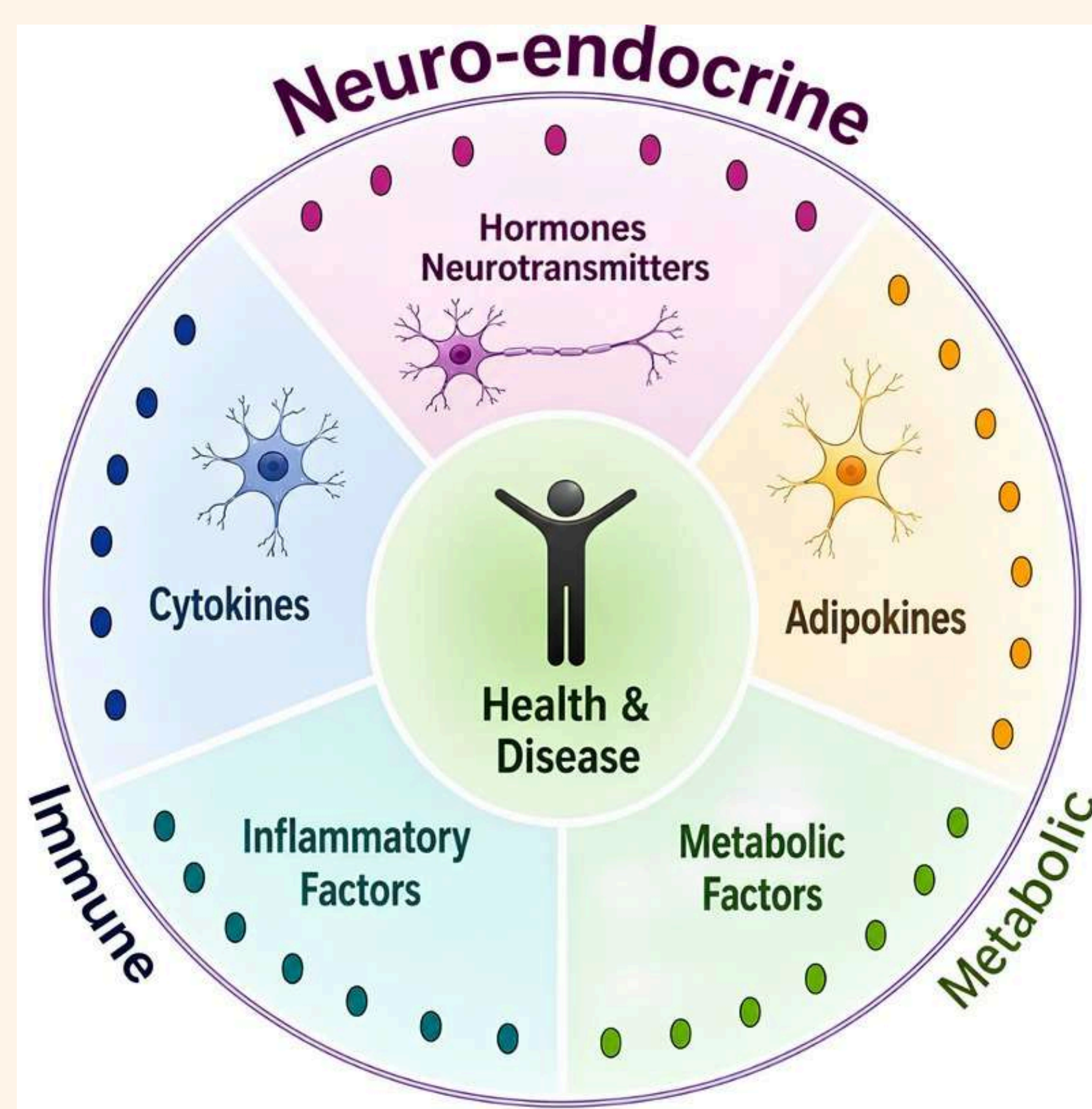


Figure 3. The interlinked neuroendocrine

Three Systems, One Language

It helps to picture the trio as three musicians playing the same score.

The nervous system — the brain and nerves — processes the world around us and releases neurotransmitters that govern our response to stress.

The immune system stands guard against pathogens, releasing cytokines that signal back to the brain and glands. The endocrine system secretes hormones such as cortisol and insulin that steer metabolism, mood and immunity.

What unites them is a shared chemical vocabulary: hormones and cytokines can act on all three, allowing the body to respond sensibly to whatever pressures arise inside and out.

For anyone in poor health, whose conditions push up the body's metabolic demands, keeping this trio in tune through good nutrition becomes not a luxury but a necessity — and nutrient-dense millets offer a cost-effective, culturally familiar and sustainable way to do exactly that.

How Millets Join the Band –

Millets influence this neuro-immuno-hormonal axis through three clear mechanisms. First, the gut-brain axis: their prebiotic fibre nourishes a healthy microbiome, which in turn produces short-chain fatty acids such as butyrate and other neuroactive compounds that speak directly to the central nervous system, helping to regulate mood and inflammation.

Second, hormonal and blood-sugar balance: thanks to their low glycaemic index, millets prevent the sharp sugar spikes that destabilise insulin and fuel the chronic metabolic inflammation behind much endocrine dysfunction.

Third, immunomodulation: their abundant phytochemicals, polyphenols and antioxidants actively lower oxidative stress, calming the low-grade, persistent inflammation that can otherwise scramble hormonal and nervous signalling.

Millets don't fix one system — they help the whole orchestra play in tune.

Feeding the Brain –

Childhood is the brain's great construction season, and it runs on the right raw materials. Millets supply them in abundance, acting as an exceptional source of B-complex vitamins — thiamine, riboflavin, niacin and folate — that serve as essential cofactors in building neurotransmitters. These vitamins help manufacture serotonin, dopamine and GABA, the chemicals that carry messages between neurons. Folded into a child's diet, millet-based foods can meaningfully strengthen neuroplasticity, sharpen cognitive performance and support the development of executive function. The benefit is not limited to typically

developing children: for those living with conditions such as cerebral palsy, autism spectrum disorders or physical impairments, millet-based therapeutic nutrition offers integrated support — nourishing the brain while also easing digestive trouble and reinforcing immunity.

Mental health, too, sits at the heart of this picture, since children with developmental challenges face heightened psychosocial stress and elevated rates of anxiety, depression and fatigue that can erode both performance and quality of life.

Neuroprotection in Action –

The neuroprotective credentials of millets rest on solid laboratory work. Their phenolic and flavonoid compounds, armed with anti-inflammatory and antioxidant properties, support cognition and may help stave off neurological disorders such as Parkinson's and Alzheimer's disease.

Millet consumption has been shown to reduce oxidative stress in the hippocampus and to suppress the Alzheimer's-linked genes tau and gamma-secretase.

Millet polyphenols sharply cut oxidative stress and protected SH-SY5Y nerve cells from hydrogen-peroxide-induced death. In rats, pearl millet countered oxidative damage and behavioural impairment, restoring antioxidant enzyme activity and lowering malondialdehyde across brain, liver and kidney tissue, while correcting anxiety-like behaviour and normalising liver enzymes. One standout compound, orientin (luteolin-8-C-glucoside) derived from millet, shielded rat cortical neurons in a model of newborn ischaemic brain injury

— restoring cell viability, curbing reactive oxygen species and modulating the JNK and ERK1/2 signalling pathways in a dose-dependent way.

The Science of Stress Relief –

Stress, at its root, is a chemical event — and millets carry the chemistry to soften it. Their rich array of essential amino acids, including tryptophan, lysine, methionine and valine, feeds the serotonergic pathway, with tryptophan in particular serving as the precursor to serotonin, the body’s chief mood-regulating neurotransmitter. The antioxidants in finger millet add a second line of defence by easing the oxidative stress that underlies both cognitive decline and psychiatric distress. The logic is straightforward and increasingly well supported: nutrient-dense diets, high in antioxidants and key micronutrients, helps quieten oxidative stress and inflammation, and in doing so help lift mood, reduce anxiety and depression, and improve overall wellbeing. For children navigating the extra pressures that disability brings, this nutritional buffering of the HPA axis — and of cortisol in particular — may translate into real gains in both schoolwork and emotional health.

Nourishing Cognition: A Nutrient-by-Nutrient Guide –

Cognition , the gathering, storing and use of information for decision-making, is under siege worldwide, eroded by ageing, lifestyle, chronic illness and dietary imbalance. Millets answer this challenge on several fronts at once. Their phenolics, flavonoids and antioxidants guard against oxidative damage; they encourage neuronal survival, synaptic plasticity and the release of brain-derived neurotrophic factor; they calm inflammatory pathways and suppress the cytokines tied to cognitive decline; and through their fibre they cultivate a gut microbiota that produces brain-friendly short-chain fatty acids.

The table below maps the nutrients behind these benefits onto the jobs they do in the brain.

Nutrient	Category	Role in brain development and cognition
Carbohydrates	Macronutrient	Provide energy to the brain and support cognitive function
Proteins	Macronutrient	Build brain structure and produce neurotransmitters for cognitive processes
Fats (lipids)	Macronutrient	Form brain tissue, support myelination and supply energy for the brain
Water	Macronutrient	Maintains hydration essential for optimal brain function
Vitamin A	Micronutrient	Supports neuronal development and visual function
Vitamin B1 (thiamin)	Micronutrient	Drives brain energy metabolism and cognitive function
Vitamin B2 (riboflavin)	Micronutrient	Required for energy production and brain maintenance
Vitamin B3 (niacin)	Micronutrient	Fuels brain energy metabolism and supports cognition
Vitamin B5 (pantothenic acid)	Micronutrient	Involved in neurotransmitter synthesis and brain function
Vitamin B6	Micronutrient	Essential for synthesising neurotransmitters used in cognition
Vitamin B7 (biotin)	Micronutrient	Supports brain development and cognitive function
Vitamin B9 (folate)	Micronutrient	Crucial for neural tube development and cognition
Vitamin B12	Micronutrient	Aids myelination, neurotransmitter production and cognition
Vitamin C	Micronutrient	Acts as an antioxidant and supports brain health
Vitamin D	Micronutrient	Important for brain development, neuroprotection and neurotransmitter regulation
Vitamin E	Micronutrient	Antioxidant that shields brain cells from oxidative damage
Vitamin K	Micronutrient	Supports brain development and a role in cognition
Calcium	Micronutrient	Vital for neurotransmitter release and synaptic plasticity
Phosphorus	Micronutrient	Involved in energy metabolism and neurotransmitter synthesis
Magnesium	Micronutrient	Needed for synaptic plasticity and cognitive processes
Sodium	Micronutrient	Regulates electrical impulses and neurotransmission
Potassium	Micronutrient	Maintains brain cell function and supports cognition
Chloride	Micronutrient	Maintains electrolyte balance for neuronal signalling
Iron	Micronutrient	Crucial for oxygen transport, myelination and cognitive development
Zinc	Micronutrient	Involved in synaptic transmission and memory formation
Copper	Micronutrient	Necessary for brain development and neurotransmitter synthesis
Manganese	Micronutrient	Supports brain function and neurotransmitter regulation
Selenium	Micronutrient	Antioxidant with a role in brain health
Iodine	Micronutrient	Essential for thyroid hormones that drive brain development
Fluoride	Micronutrient	Supports dental health, indirectly aiding wellbeing
Chromium	Micronutrient	May influence brain function and cognitive processes
Molybdenum	Micronutrient	Participates in enzyme reactions relevant to brain health

Table 2. Key nutrients and their roles in brain development and cognition.

Why does any of this matter for the average reader ?

Because cognitive disorders touch every stage of life, from childhood attention difficulties to age-related decline. The table below outlines the major conditions, their typical timing and how they tend to progress , a reminder of why nutritional safeguards are worth building early and maintaining for life.

Condition	Typical prevalence	Progression and impact across life stages
Alzheimer’s disease	Rises with age	Progressive decline in memory, thinking and behaviour; may begin as mild cognitive impairment in older age and advance to severe decline.
Parkinson’s disease	Rises with age	Motor symptoms in later adulthood, with slowed thinking, memory issues and difficulty planning and deciding.
ADHD	Childhood, adolescence	Childhood onset with inattention, hyperactivity and impulsivity that affect academic and social life.
Depression	Across the lifespan	Affects mood, energy and cognition, often impairing concentration and memory.
Anxiety disorders	Across the lifespan	Persistent worry and fear with cognitive distortions affecting attention and decision-making.
Substance abuse	Across the lifespan	Misuse impairs cognition, judgement and memory, risking long-term deficits.
Traumatic brain injury	Across the lifespan	Impairments vary with severity and site of injury; may affect memory, attention and executive function.
Vascular cognitive impairment	Rises with age	Stroke or small-vessel disease causes impairment; progression depends on the underlying condition.
Normal age-related change	Rises with age	Mild, expected shifts in memory, speed and attention that usually do not disrupt daily life.

Table 3. Major cognitive conditions, their prevalence and likely progression.

Nutrition for the Growing Child – In an age of rushed schedules and convenience eating, parents worry — rightly — about giving children the nutritional foundation they need to grow in both body and mind.

Millet grains, from pearl and foxtail to proso, have stepped into that role as functionally superior staples, well deserving of their “superfood” billing in paediatric diets.

Building the Body's Defences – Adding millet-based foods to a child's plate pays dividends well beyond the brain: stronger immune defences, smoother digestion and enzyme activity, steadier post-meal blood sugar, and better neurological development — with the added bonus that regular millet eaters face a lower risk of childhood obesity and the metabolic syndrome that often trails it.

How Millets Train the Immune System – Laboratory research has steadily built the case for millets as immune modulators. In a 2020 study by Ji and colleagues, millet prolamin peptides reduced TNF-alpha, IL-6, IL-1beta and nitric oxide in immune cells provoked by bacterial toxin, and suppressed key inflammatory signals — marking them as a promising natural anti-inflammatory. The mechanism runs through the NF-kappaB and MAPK signalling pathways, central switchboards of immune regulation.

Other work tells a **complementary story**: a finger-millet polysaccharide stimulated immune cells to produce cytokines and nitric oxide while activating those same pathways, and finger-millet phenolics showed activity against breast cancer and liver cancer cell lines. Arabinoxylans from little millet acted as immunostimulants by triggering NF-kappaB and ERK signalling, while a kodo-millet phenolic extract worked the other way, dialling those pathways down — a reminder that millets can both rouse and restrain immunity as the situation demands.

A Closer Look at Immunomodulation – Deeper investigation has mapped these effects in detail. Phenolic-acid-bound arabinoxylans from foxtail and barnyard millet drove dose-dependent rises in nitric oxide, reactive oxygen species and cytokine production in immune cells, with the barnyard fraction — richer in phenolic acid — proving especially potent. An ethanolic extract of finger millet (ragi) curbed mast-cell degranulation in mice while boosting

the engulfing power of human macrophages.

A selenium-enriched millet fraction activated macrophages and natural killer cells, lifting cytokine release, granzyme-B production and NK-cell markers. Deproteinized polysaccharides from finger millet switched on macrophages through CD40 and the NF-kappaB and MAPK pathways, while purified arabinoxylans from finger-millet bran — their punch tied to ferulic acid content — spurred macrophage activity and lymphocyte proliferation.

Even the lipids and phenolics of pearl-millet seed showed immune-shaping effects, with phenolics in particular influencing calcium signalling in T cells.

Taken together, the evidence paints millets as versatile, natural immunomodulators.

Balancing the Hormones – If one molecule sits at the crossroads of stress and health, it is cortisol — the adrenal hormone released when the HPA axis is activated, and a reliable biomarker of chronic stress.

Kept high for too long, cortisol takes a toll on executive function, mood and overall psychological wellbeing, which is precisely why interventions that help regulate it matter so much.

Given the well-established link between what we eat and how our minds work, targeted nutrition has emerged as a



genuinely promising way to support mental health and manage stress.

Millets contribute here through the same levers mentioned elsewhere in this story: a low glycaemic index that steadies insulin and blood sugar, a phytochemical matrix that tempers inflammation, and fibre that fosters a healthy gut — all of which help keep the endocrine system on an even keel.

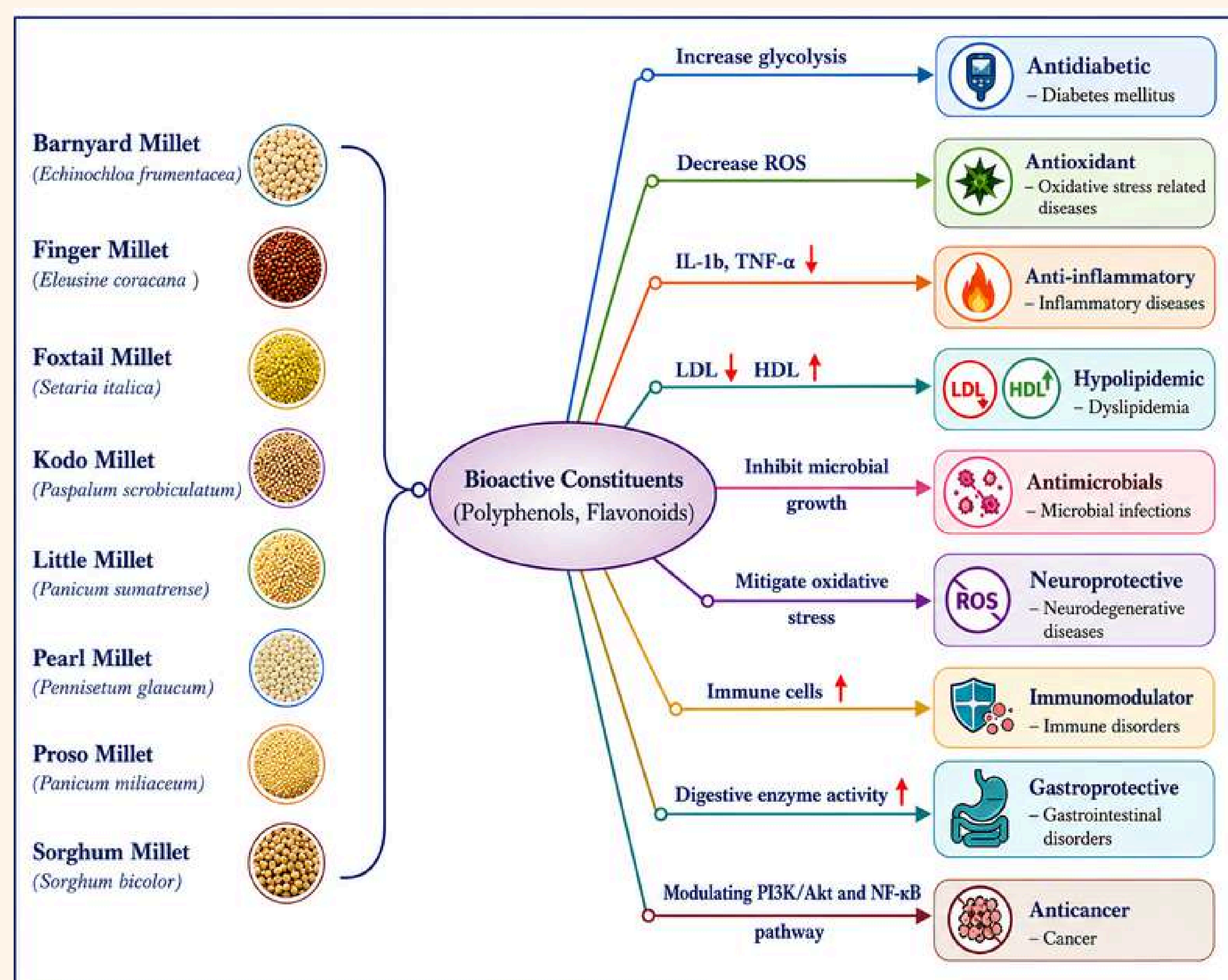


Figure 4. Cortisol modulation through nutritional intervention

From Laboratory to Life –

The strategic use of millet-enriched diets represents an evidence-based route to better health outcomes — and its reach extends beyond children. In sports nutrition, millets earn their place as valuable allies.

Woven into an athlete's diet, they offer a comprehensive way to support psychological wellbeing and modulate HPA-axis function through cortisol regulation. Their complex phytochemical matrix, combined with their knack for steadying blood sugar and nurturing beneficial gut bacteria, makes them useful adjuncts in evidence-based performance nutrition.

The natural next step, researchers argue, is rigorous validation: randomised controlled trials to confirm these promising findings and to set standardised guidelines, especially for finger millet, within competitive athletics. Such work would pave the way for precision nutrition tailored to individual performance and stress management — a broader shift toward harnessing traditional foods with proven therapeutic promise to meet thoroughly modern health challenges.



Bringing Millets to Your Plate

Science is only as useful as the habits it inspires. Happily, putting millets to work in everyday cooking is simple. Here are practical ways to make them a regular part of a brain- and body-friendly diet:

- **Include a variety of millets:** — Each variety, from pearl and finger to foxtail and sorghum, brings its own nutrient profile and bioactive compounds, so rotating them widens your nutritional net.
- **Replace refined grains with millets:** Swap white rice and refined wheat flour for whole millets, whose complex carbohydrates and fibre release energy slowly and steadily.

- **Explore millet-based recipes:** Porridge, salads and pilafs turn millets into delicious, nutritious alternatives to ordinary grain dishes.
- **Combine with other brain-healthy foods:** Pair millets with fruits, vegetables, nuts, seeds and fatty fish for a well-rounded, brain-supporting plate.
- **Favour whole millets over processed products:** Choose whole grains over millet flour or flakes to keep their full nutrient content intact.
- **Soak or ferment before cooking:** This traditional step improves digestibility and unlocks better absorption of key nutrients.
- **Practise portion control:** Enjoy millets as part of a balanced meal plan rather than in excess.
- **Consult a professional:** Anyone with specific dietary concerns or health conditions should seek personalised advice from a doctor or nutritionist.

Follow these habits — alongside regular exercise and a generally healthy lifestyle — and millets can become a quiet, daily investment in both cognitive and overall wellbeing.

The Road Ahead: Hurdles Worth Clearing

– For all their promise, millets will not return to the mainstream by virtue of nutrition alone.

Several practical obstacles must be addressed thoughtfully if a millet revival is to be both successful and sustainable:

- **Awareness and acceptance:** In many places millets still carry the stigma of “poor man's food,” and a cultural shift is needed to recast them as desirable, nutritious choices.
- **Culinary preferences:** Their distinct flavours, textures and cooking methods call for creative recipes that respect local tastes.
- **Supply chain and access:** Demand can be erratic, and building a steady supply chain — with reliable storage, transport and distribution — is a real challenge.
- **Farmer adoption and livelihoods:** Farmers accustomed to other crops need training, fair prices and assured market links to take up millet cultivation.
- **Processing and infrastructure:** Adequate processing facilities, especially in remote areas, are essential to realise the grains' nutritional value.

- **Nutritional awareness:** Clear, accurate communication of millet's health benefits is key to stimulating consumer demand.
- **Policy and regulation:** Supportive policy — incentives, subsidies and sensible regulation — can encourage production, processing and trade.
- **Marketing and promotion:** Effective marketing that engages consumers, retailers and the food industry is needed to build a market.
- **Price volatility:** Weather and market swings can move prices; stabilisation mechanisms would protect both farmers and buyers.
- **Climate and environment:** Though hardy, millets are not immune to climate change, making sustainable farming practices important.
- **Research and development:** Continued work on varieties, agronomy, processing and product development will keep raising their value and appeal.

Where the Science Should Go Next



The research itself is far from finished.

To turn promise into proof, scientists call for long-term, large-scale clinical trials in diverse populations to firmly establish cause and effect; mechanistic studies, from cell models to animal work to human biomarkers and neuroimaging, to pin down exactly how millet compounds act; and comparative studies across varieties and processing methods to identify which forms deliver the most benefit.

Equally important are investigations of the gut microbiota using metagenomic and metabolomic tools, comprehensive nutritional profiling of each variety, dedicated studies on age-related cognitive decline, and research into how millet consumption

combines with other lifestyle factors such as exercise, sleep and social engagement. Practical dietary-intervention trials — testing real meals in real lives — will round out the picture and ground recommendations in everyday feasibility.

KEY TAKEAWAYS -

1. Millets are nutri-cereals — gluten-free, fibre-rich and dense in iron, calcium, zinc, magnesium and B-vitamins — matching or beating rice, wheat and maize.
2. Their low glycaemic index (54–68) steadies blood sugar, supporting calmer behaviour and sustained concentration.
3. Millets act on the nervous, immune and endocrine systems together — through the gut–brain axis, balanced blood sugar and antioxidant immunomodulation.
4. Millet phenolics, flavonoids and amino acids show neuroprotective, anti-inflammatory and stress-relieving activity in laboratory studies.
5. Simple processing — soaking, fermenting, malting, popping — tames anti-nutrients and boosts the bioavailability of key nutrients.
6. Realising millets' potential needs farmer support, better processing, smart policy and a cultural shift away from the “poor man's food” label.

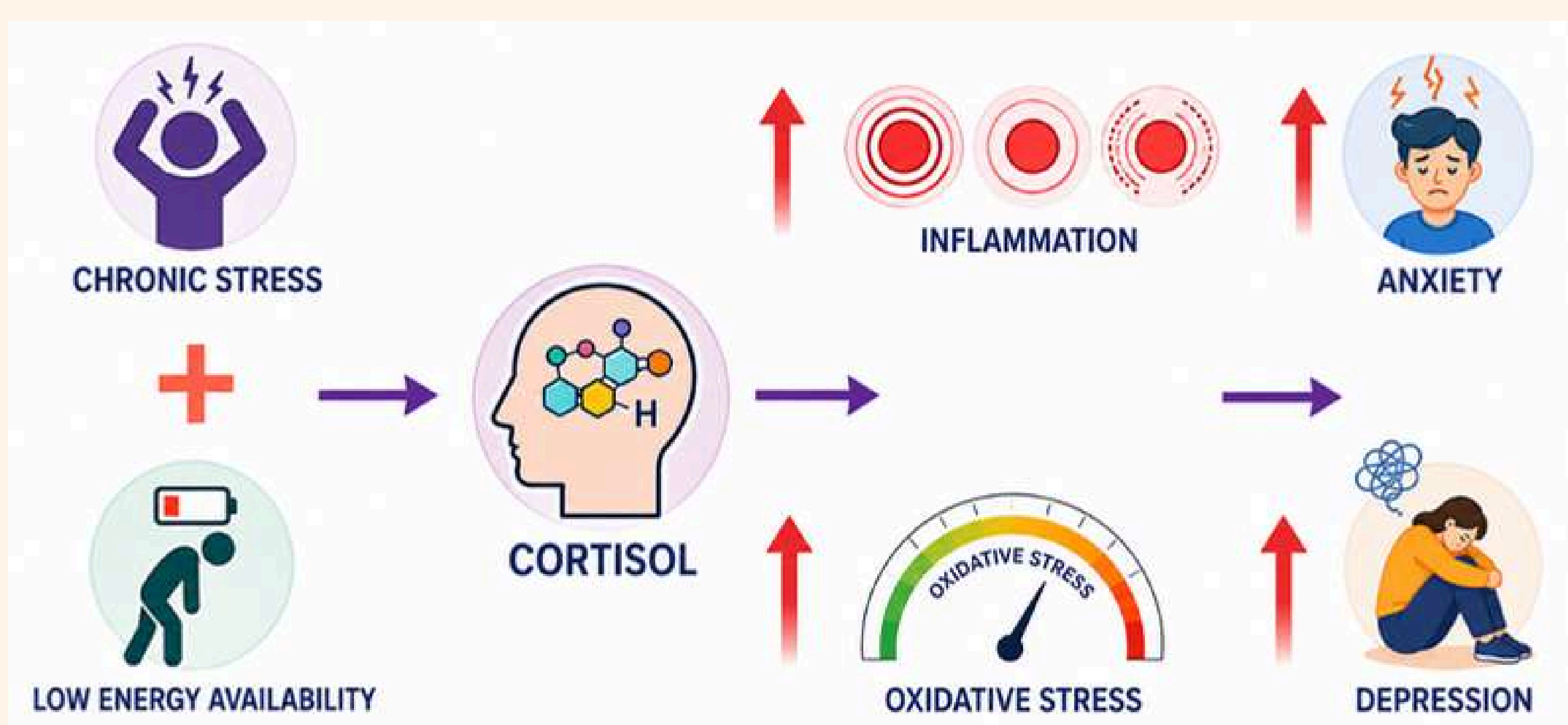


Figure 5. Possible impact of chronic stress and low energy availability on mental health.

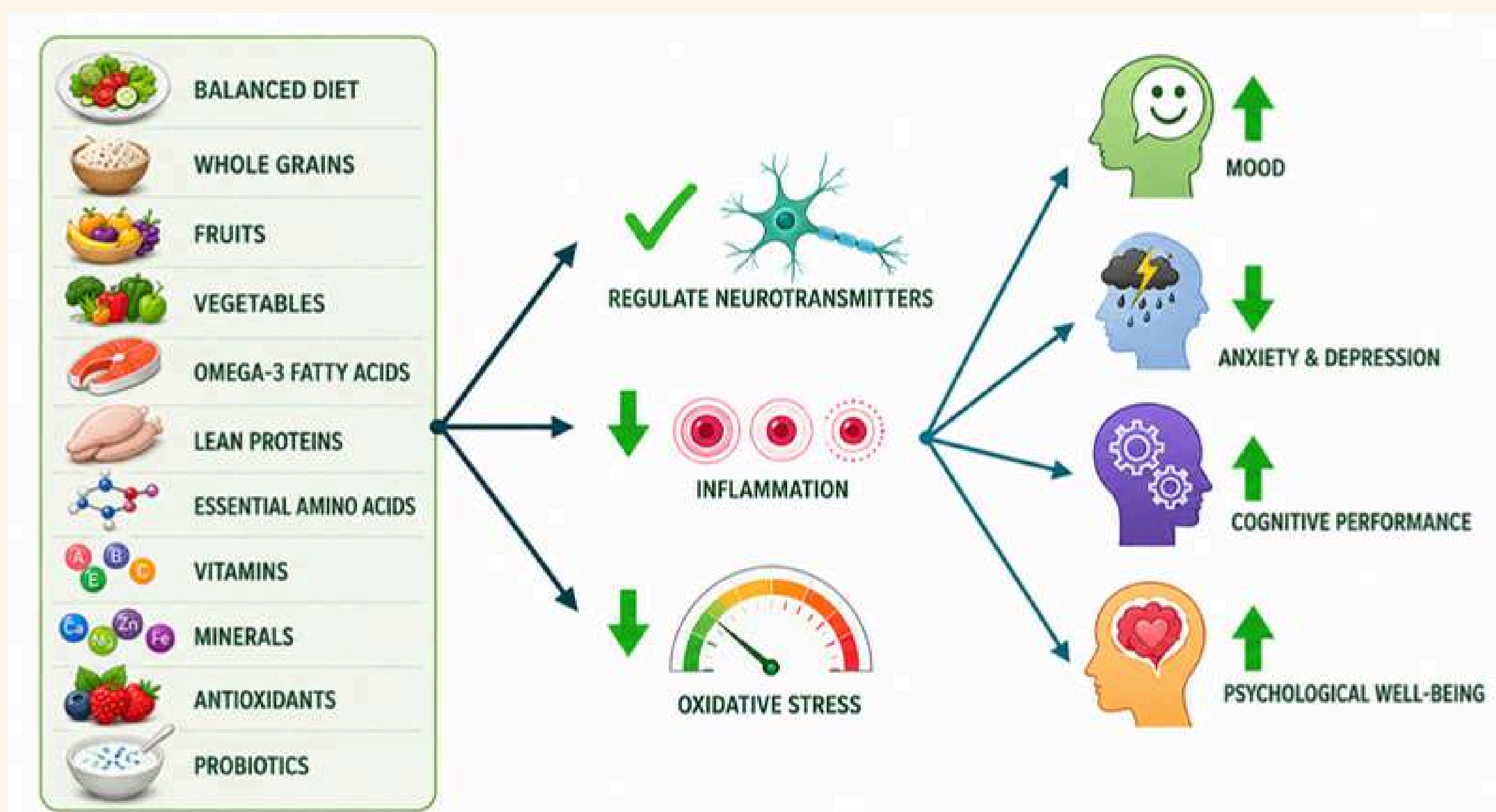


Figure 6. Nutritional intervention and mental health.

The Bottom Line –

This is, in the end, a story of an old grain meeting a new science and finding the two in agreement. The evidence gathered here points in one direction: millets are a genuine nutritional intervention for cognitive and overall health.

They fight oxidative stress, protect neurons by tuning molecular pathways, calm inflammation, steady brain energy metabolism and strengthen the gut–brain dialogue.

They encourage neuronal survival, synaptic plasticity and the release of brain-derived neurotrophic factor, and they cultivate a healthier gut that yields brain-friendly metabolites such as short-chain fatty acids.

Much remains to be confirmed — the precise mechanisms, the optimal amounts and durations, and how millets work best alongside other healthy habits. But the trajectory is unmistakable.

By embracing this resilient, affordable and deeply traditional grain, we have a real opportunity to safeguard the mind, fortify the body and improve quality of life across every stage of it. The ancient line was right all along: as the food, so the mind. It may simply have taken modern science a few thousand years to catch up.



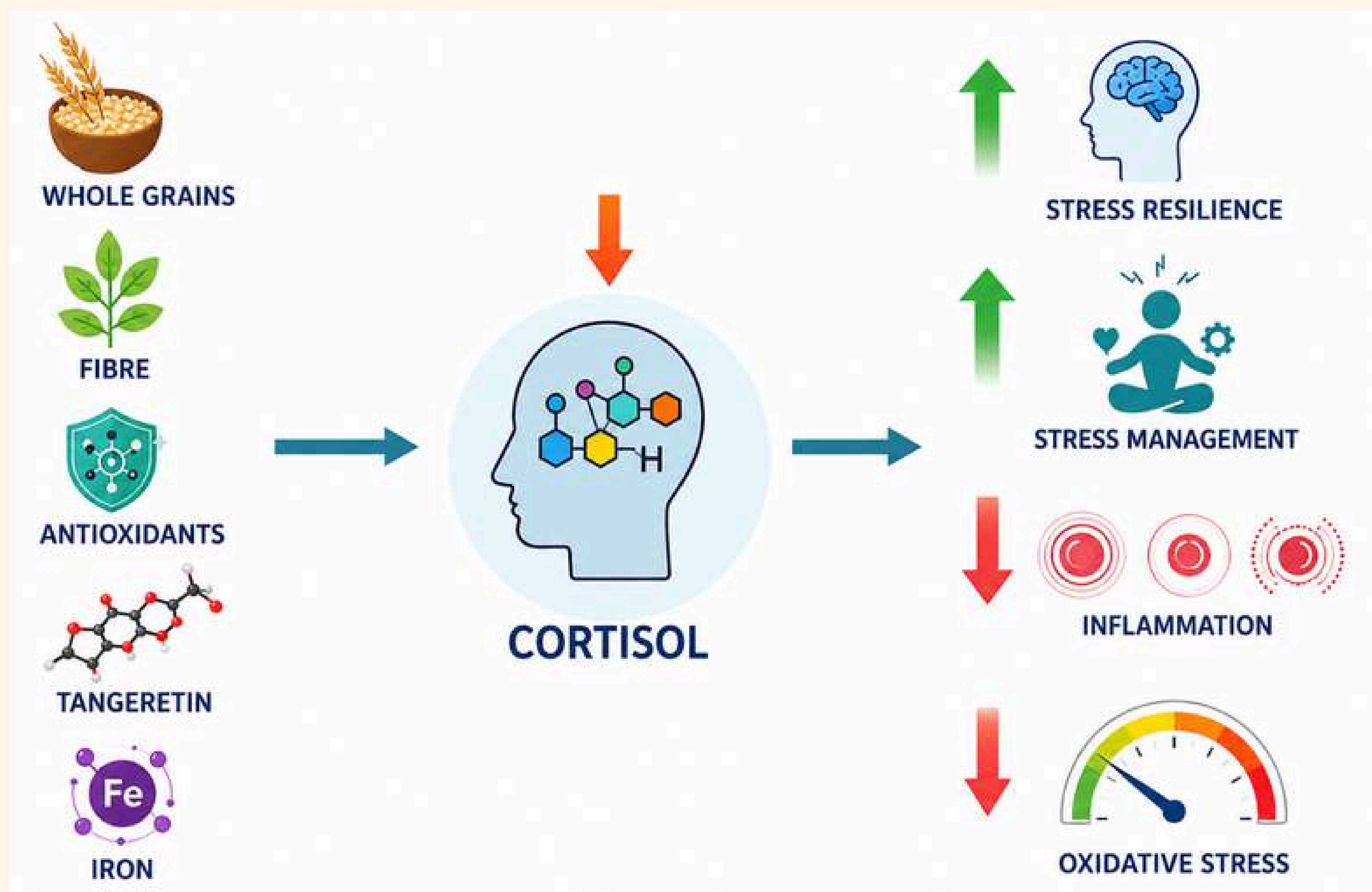
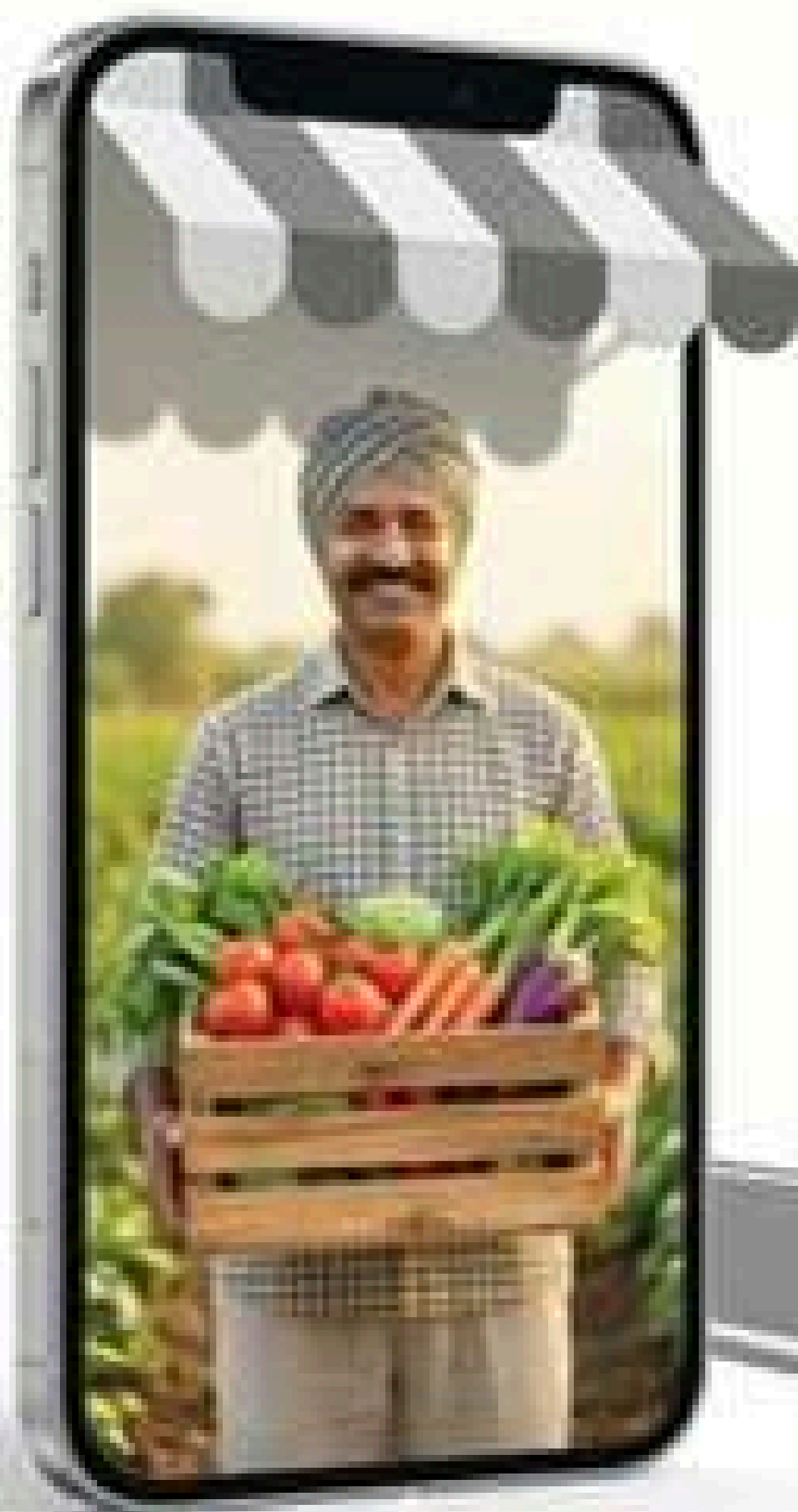


Figure 7. Cortisol modulation through Nutritional intervention

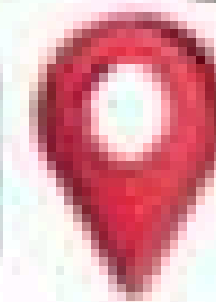
References

1. Anitha, S., Govindaraj, M., Kane-Potaka, J., et al. (2022). Millets can have a major impact on improving iron status, hemoglobin level, and in reducing iron deficiency anemia: A systematic review and meta-analysis. *Frontiers in Nutrition*, 8, 725529. <https://doi.org/10.3389/fnut.2021.725529>
2. Devi, P. B., Vijayabharathi, R., Sathyabama, S., Malleshi, N. G., & Priyadarisini, V. B. (2014). Health benefits of finger millet (*Eleusine coracana* L.) polyphenols and dietary fiber: A review. *Journal of Food Science and Technology*, 51(6), 1021–1040. <https://doi.org/10.1007/s13197-011-0584-9>
3. Gull, A., Jan, R., Nayik, G. A., Prasad, K., & Kumar, P. (2014). Significance of finger millet in nutrition, health and value-added products. *Journal of Environmental Science, Toxicology and Food Technology*, 8(7), 41–47.
4. Rao, B. D., Bhaskarachary, K., Christina, G. D. A., et al. (2017). *Nutritional and Health Benefits of Millets*. Hyderabad: ICAR–Indian Institute of Millets Research.
5. Saleh, A. S. M., Zhang, Q., Chen, J., & Shen, Q. (2013). Millet grains: Nutritional quality, processing, and potential health benefits. *Comprehensive Reviews in Food Science and Food Safety*, 12(3), 281–295. <https://doi.org/10.1111/1541-4337.12012>
6. Taylor, J. R. N., & Emmambux, M. N. (2008). Gluten-free foods and beverages from millets. In E. K. Arendt & F. Dal Bello (Eds.), *Gluten-Free Cereal Products and Beverages* (pp. 119–148). Academic Press. <https://doi.org/10.1016/B978-012373739-7.50010-2>
7. International Crops Research Institute for the Semi-Arid Tropics. (2017). *Millets: Nutritional Composition and Health Benefits*. Hyderabad, India.
8. Saleh, A. S. M., Zhang, Q., Chen, J., & Shen, Q. (2013). Millet grains: Nutritional quality, processing, and potential health benefits. *Comprehensive Reviews in Food Science and Food Safety*, 12(3), 281–295.
9. Taylor, J. R. N., & Emmambux, M. N. (2008). Gluten-free foods and beverages from millets. In *Gluten-Free Cereal Products and Beverages*. Academic Press, 119–148.
10. Devi, P. B., Vijayabharathi, R., Sathyabama, S., Malleshi, N. G., & Priyadarisini, V. B. (2014). Health benefits of finger millet (*Eleusine coracana* L.) polyphenols and dietary fiber: A review. *Journal of Food Science and Technology*, 51(6), 1021–1040.
11. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). (2023). *Millets for Nutrition, Health and Climate Resilience*. Hyderabad, India.
12. Ministry of Agriculture & Farmers Welfare, Government of India. (2023). *International Year of Millets: Status and Prospects of Millets in India*. New Delhi.
13. Saleh, A. S. M., Zhang, Q., Chen, J., & Shen, Q. (2013). Millet grains: Nutritional quality, processing, and potential health benefits. *Comprehensive Reviews in Food Science and Food Safety*, 12(3), 281–295.
14. Taylor, J. R. N., & Emmambux, M. N. (2008). Gluten-free foods and beverages from millets. In *Gluten-Free Cereal Products and Beverages*. Academic Press, 119–148.
15. Devi, P. B., Vijayabharathi, R., Sathyabama, S., Malleshi, N. G., & Priyadarisini, V. B. (2014). Health benefits of finger millet (*Eleusine coracana* L.) polyphenols and dietary fiber: A review. *Journal of Food Science and Technology*, 51(6), 1021–1040.
16. <https://www.mdpi.com/2304-8158/14/10/1733#B109-foods-14-01733>
17. https://www.researchgate.net/figure/Neuroendocrine-immune-and-even-metabolic-systems-are-interconnected-by-a-profuse-network_fig1_354393478
18. <https://www.frontiersin.org/journals/endocrinology/articles/10.3389/fendo.2021.718893/full#f1>

"Connecting Indian Farmers Directly with Consumers."



"One KhetiCorner Store Every 5 km
+ Online Marketplace"



Farmers & FPOs Fresh Produce
Value-added Products Fair Price

Nearby Store
Online Ordering
Fresh & Trusted
Farm Direct

"Direct from Farmers. Better for Everyone."

From the hands that grow your food to the hands that serve your family – we're building a direct bridge. No middlemen, no compromises. Just fresh, honest produce straight from Indian farmers to your doorstep. Empowering farmers. Nourishing families. Strengthening India.



Launching Soon
Hyderabad | Bengaluru
India

+ (91) 9030302139



Connect with us Today



PINE APPLES

FESTIVAL 2026

WHERE AGRICULTURE, TOURISM &
RURAL ENTERPRISE UNITE

Beyond a Fruit Festival

By Lakshman K

Can a fruit become the
foundation of **a thriving rural
economy?**

**Meghalaya is demonstrating
that it can.**





Meghalaya Pineapple Festival 2026

The **Meghalaya Pineapple Festival** has evolved far beyond a celebration of one of the state's finest horticultural products. It has become a dynamic platform that connects farmers with market; it showcases **indigenous entrepreneurship**, **promotes cultural heritage** and **positions agriculture as an engine of sustainable economic growth**.

What began as a promotional initiative has grown into a nationally recognised example of how agricultural branding, tourism and value-chain development can work together to create lasting opportunities for farming communities.

Held from **10 to 12 July 2026, at Dilli Haat, New Delhi**, the fourth edition of the Festival brought Meghalaya's renowned pineapples directly to consumers, retailers, exporters, food businesses and institutional buyers. **Organised by the Department of Agriculture & Farmers' Welfare, Government of Meghalaya**, the event reflected the State's commitment to strengthening agricultural value chains through market access, branding, value addition and strategic partnerships.

The Festival also mirrors Meghalaya's broader **vision of transforming agriculture into a driver of inclusive rural development**. Through initiatives that support farmer collectives, organic cultivation, food processing and market expansion, the State is creating opportunities that extend well beyond increased production.

It is enabling farmers to participate in organised markets, encouraging entrepreneurship and strengthening the identity of Meghalaya's agricultural products in both domestic and international markets.

For **KhetiValah Global Agri Magazine**, the **Meghalaya Pineapple Festival** represents more than an annual event. It demonstrates how agriculture, culture and tourism can come together to build stronger rural economies while creating memorable experiences for visitors.

It is this integrated approach that makes the Festival a noteworthy model under our **KhetiUtsav - Agri Tourism Initiative**.

From Farm to Market: Building a Premium Agricultural Brand

The success of the Meghalaya Pineapple Festival lies not only in showcasing a premium fruit, but in demonstrating how an integrated value chain can create lasting opportunities for farmers. Behind every pineapple that reaches the consumers in New Delhi lies a carefully developed ecosystem, connecting cultivation, aggregation, processing, branding, logistics, and market access into a seamless agricultural enterprise.

Meghalaya's pineapples are recognised for their exceptional sweetness, rich aroma, low acidity and a **Brix value of 16-18°**, these attributes helped the fruit establish a distinct identity in premium domestic and international markets. Building on these natural advantages, the Government of Meghalaya has focused on strengthening every stage of the value chain-ensuring that farmers receive greater value from their

produce rather than relying solely on increased production.

An important milestone during the 2026 Festival was the signing of strategic Memoranda of Understanding with **Flipkart** and **NCDEX e Markets Limited (NeML)**. These collaborations are expected to expand the access to organised retail, digital commerce and institutional buyers, creating new marketing opportunities not only for pineapples but also for other premium agricultural products from Meghalaya.

The festival also highlights the strength of farmer collectives and Farmer Producer Companies. Organisations such as Jirang Organic Agro Farmer Producer Company have demonstrated how collective marketing, value addition and organised supply chains can improve market access and strengthen rural livelihoods. With women playing a significant role in these producer groups, the model reflects an inclusive approach to agricultural development. Today, Meghalaya's premium



SHRI CONRAD K SANGMA
HON'BLE CHIEF MINISTER , MEGHALAYA

LEADERSHIP VISION

Our objective is simple; to ensure that every partnership we build and every market we open ultimately translates into higher incomes, stronger livelihoods and better opportunities for the people of Meghalaya.

pineapples are reaching organised retailers, hospitality businesses and international markets, including exports to Dubai and the UAE.

This growing market presence illustrates how branding, quality assurance and strategic partnerships can transform a regional horticultural crop into a globally recognised agricultural product.

Meghalaya Pineapple Festival 2026

This vision is reflected in Meghalaya's integrated approach to agricultural development, where farmer collectives, market partnerships, food processing, branding and exports work together to create sustainable rural livelihoods. The Festival serves as a practical demonstration of this strategy, bringing farmers, entrepreneurs, retailers, exporters and consumers onto a common platform that creates value well beyond the harvest season.

KEY MILESTONES



01 Strengthened Linkages

02 Strategic Partnerships

03 Farmer Producer Organisations

04 Capacity Building

05 Strong Support Systems

06 Value Addition

07 Agriculture for Sustainable Growth

More Than a Festival: Celebrating Meghalaya's Living Heritage

The Meghalaya Pineapple Festival offers visitors much more than an opportunity to purchase premium pineapples. It offers a rich experience, blending agriculture, food, culture, music, and rural entrepreneurship to help people discover Meghalaya's traditions and produce. Throughout the three-day festival, visitors interacted directly with pineapple growers, Farmer Producer Organisations and rural entrepreneurs, gaining first-hand insight into the journey of Meghalaya's renowned pineapples from farm to market. These conversations created a stronger connection between producers and consumers while helping farmers understand changing market expectations and consumer preferences.



Meghalaya Pineapple Festival 2026

One of the Festival's distinctive features was its celebration of Meghalaya's cultural identity.

Live performances by artists from the **Chief Minister's Meghalaya Grassroots Music Programme (MGMP)** added a vibrant cultural dimension, while local cuisine, pineapple-based delicacies and value-added products introduced visitors to the diversity and richness of the State's food traditions.



Together, these experiences transformed the festival into an immersive showcase of Meghalaya's agricultural and cultural heritage.

The Festival also highlighted the growing role of rural entrepreneurs, women-led enterprises and farmer collectives in creating value beyond primary production.

By promoting processed products, local brands and traditional foods alongside fresh produce, the event demonstrated how value addition can generate new income opportunities while strengthening the identity of regional agricultural products.





Meghalaya Pineapple Festival 2026

For visitors, the festival became a gateway to discover Meghalaya. For farmers, it created opportunities to build new business relationships and expand market access. For entrepreneurs, it provided a platform to showcase innovation, local craftsmanship and agri-based enterprises. This integration of agriculture, tourism and culture is what makes the Meghalaya Pineapple Festival a compelling model for rural economic development.

Voices from the Festival

"The biggest blessing for us is that the festival provides a platform to interact directly with buyers and consumers alike."

Prin Ronghang, Farmer Representative, Meghalaya

"The entire Northeast is getting the platform it deserves, and farmers are receiving opportunities that can transform their future."

Renhya Umbrey, Student, Indian Agricultural Research Institute

The Meghalaya

PINEAPPLE FESTIVAL

2026 Experience

AGRICULTURE

Premium pineapples, farmer interactions and value-added products.

CULTURE

Traditional music, local art and community participation.

FOOD

Fresh pineapples, regional cuisine and innovative culinary experiences.

ENTREPRENEURSHIP

Farmer Producer Organisations, rural enterprises and local brands.

TOURISM

A destination experience that connects visitors with Meghalaya's people, products and traditions.

A Model for India's Agri Tourism Future

The successful conclusion of the 4th Meghalaya Pineapple Festival marked more than the end of a three-day celebration. It proved how a well-designed agricultural festival can become a catalyst for rural prosperity, market expansion, destination branding and sustainable tourism. By integrating agriculture, entrepreneurship, culture and hospitality, Meghalaya has created a unique model that extends benefits far beyond the festival grounds. The Festival concluded with a record sale of 30 metric tonnes of fresh pineapples, nearly double of the previous edition's sale reflecting the growing consumer demand for Meghalaya's premium produce. More importantly, the event strengthened partnerships between farmers, Farmer Producer Organisations, retailers, exporters and food businesses, creating opportunities for sustained market engagement throughout the year rather than only during the festival. The impact extends beyond commercial success. Visitors experienced Meghalaya through its agriculture, local cuisine, music, entrepreneurship and cultural traditions, while farmers returned with new business relationships, greater market confidence and improved visibility for their products. The festival demonstrates that agriculture can successfully become a tourism experience when supported by quality produce, organised value chains, authentic cultural engagement and effective destination branding.



Meghalaya Pineapple Festival 2026

What Makes This Festival a Successful Agri Tourism Model?

- 01 Agriculture**
Agriculture is the central attraction, not just the backdrop.
- 02 Direct Interaction**
Direct interaction among farmers, buyers and consumers.
- 03 Integration**
Integration of food, culture, music and local traditions.
- 04 Promotion**
Promotion of Farmer Producer Organisations and rural enterprises.
- 05 Strong Branding**
Strong branding supported by value addition and market linkages.
- 06 Strategic Partnerships**
Strategic partnerships with organised retail and export markets.
- 07 Visitor Experience**
Visitor's enriching experience ignites their interest in Meghalaya as a travel destination.



Lessons for other Indian States

The Meghalaya Pineapple Festival offers valuable lessons for states seeking to strengthen rural economies through agriculture-led tourism.

- Build destination brands around unique agricultural products.
- Connect festivals with organised markets and value addition.
- Integrate local cuisine, culture and community experiences.
- Promote women-led enterprises, FPOs and rural entrepreneurs.
- Create long-term business opportunities alongside visitor engagement.
- Position agriculture as a driver of tourism, livelihoods and regional identity.



Editors Perspective

The success of Agricultural festivals should be measured not only by visitor numbers or product sales, but by the opportunities they create for farming communities. **The Meghalaya Pineapple Festival** demonstrates how strategic planning, strong institutional support, market partnerships and community participation can transform a regional crop into a nationally recognised brand and an engaging tourism experience.

At **KhetiValah Global Agri Magazine**, we believe KhetiUtsav is more than a magazine section. It is a platform to showcase the inspiring agri tourism models that celebrate farmers, promote local culture and create sustainable economic opportunities. The Meghalaya Pineapple Festival stands as a convincing example of how agriculture can benefit producers, consumers and rural communities alike.



DRYLAND CONGRESS 2026

Transforming Dryland Agriculture
with South-South Cooperation

10 – 12th September 2026 | NASC Complex , New Delhi , India



INTERNATIONAL CROPS RESEARCH
INSTITUTE FOR THE SEMI-ARID TROPICS

Why Dryland Agriculture Matters Now

Editorial by Lakshman K
Founder, KhetiValah Global Agri Magazine

Dryland agriculture, encompassing about 40% of the world's cultivated land, supports over **2.5 billion people** and sustains millions of smallholder livelihoods. It is **highly critical for global food security**.

It is globally vital for producing staple grains (like millets, pulses, and sorghum), supporting the livelihoods of billions, and providing feed for the majority of the world's livestock.

However, the productivity of dryland regions is constantly affected by the problems of Water Scarcity and Variability, Soil Degradation and Erosion, Low Soil Fertility and Institutional & Economic Constraints.

The sustainability of dryland agriculture depends not only on scientific breakthroughs, but also on stronger collaboration among researchers, policymakers, development organisations and farming communities.

Against this global backdrop, Dryland Congress 2026 emerges as a timely international platform for dialogue, innovation and partnership.

Jointly organised by the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** and the **Indian Council of Agricultural Research (ICAR)**, the Congress will be held from **10 to 12 September 2026 at NASC complex, New Delhi, India**.



Dr Himanshu Pathak
Director General, ICRISAT



Dr M. L. Jat Director General,
ICAR & Secretary, DARE

CONFERENCE PATRONS

The event will bring together global experts in research, academia, industry, MSMEs, food processing startups, policymakers and NGOs to develop a roadmap to make dryland agriculture sustainable and resilient across the dryland regions in the world, particularly in the most vulnerable continents of Asia and Africa.

Beyond scientific discussions, the Congress also celebrates a significant milestone of five decades of collaboration between **ICRISAT and ICAR**, the two leading agricultural research organizations that partnered extensively to improve dryland farming, food security, and climate resilience in India and across the developing world.

It is also heartening that another important event, the **United Nations Day for South-South Cooperation (observed on 12 September)** is coinciding with the congress. It reinforces the importance of South-South cooperation in addressing emerging agricultural challenges.

Why This Congress Matters –

The Congress offers

- Global platform for dryland agriculture.
- International scientific collaboration.
- Innovation for climate-resilient farming.
- South-South cooperation and knowledge exchange.
- Research-driven solutions for sustainable agriculture.

Global Agri Events & Conferences Zone

Dryland Congress

Transforming Dryland Agriculture through Science, Innovation and Global Collaboration

Inside Dryland Congress 2026 –

The Dryland Congress 2026 has been designed as an international platform where science, policy, innovation and partnerships converge to address the opportunities and challenges of dryland agriculture.

Over three days, the Congress will bring together global leaders, researchers, policymakers, development organisations, private sector representatives and young professionals to exchange knowledge, showcase innovations and explore collaborative pathways for building resilient agricultural systems.



Congress at a Glance

	Title	Dryland Congress 2026
	Theme	Transforming Dryland Agriculture through South-South Cooperation
	Dates	10-12 September 2026
	Venue	NASC Complex, New Delhi, India
	Organisers	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Indian Council of Agricultural Research (ICAR)
	Participants	Scientists, Researchers, Universities, Policymakers, Development Organisations, Agri-tech Companies, Private Sector, Students and Farmer Organisations
	Official Website	drylandcongress.icrisat.org

Six Thematic Areas –

The Congress programme has been structured around six priority themes that reflect the evolving needs of dryland agriculture.

Crop Improvement and Genetic Innovation
Advancing crop breeding and genetic research to develop resilient, high-performing varieties capable of thriving under dryland conditions.

Climate-resilient Dryland Landscapes
Exploring integrated approaches for improving soil health, water management, biodiversity conservation and landscape resilience.

Nutrition and Sustainable Food Systems
Promoting diversified farming systems that contribute to improved nutrition, food security and sustainable livelihoods.

Resilient Farming Systems and Digital Agriculture
Highlighting innovations that integrate precision agriculture, climate-smart practices and digital technologies for better farm decision-making.

Seed Systems and Technology Delivery
Strengthening quality seed systems and improving access to technologies that accelerate adoption by farming communities.

Gender, Youth and Inclusive Agricultural Development
Encouraging inclusive participation by recognising the important roles of women, youth and local communities in shaping the future of dryland agriculture.



Congress Highlights –

How Students Can Engage ?

The Congress invites abstract submissions from students and early-career researchers across its six thematic tracks, offering an

opportunity to present their work, receive expert feedback, exchange ideas, and build collaborations that can advance their research and professional careers.

How Industry Can Engage ?

The Congress invites expressions of interest from industries, startups, and innovators with solutions for arid and semi-arid regions.

The Dryland Expo provides a platform to showcase cutting-edge technologies and innovations, connect with global stakeholders, generate business opportunities, and forge strategic partnerships across the Global South.

ISSCA Awards

The ISSCA Awards invite institutions, research organizations, startups, and innovators from across the Global South to nominate proven, scalable agricultural technologies and solutions.

Selected innovations will be recognized, featured in the ISSCA Innovation Compendium, incorporated into the ISSCA Technology Solutions Repository, and showcased at Dryland Congress 2026, creating opportunities for global visibility, technology transfer, and partnerships that accelerate the adoption of impactful agricultural innovations.

Featured Global Voices

The Congress will bring together distinguished scientists, policymakers, institutional leaders and development practitioners from around the world.

Their collective expertise will span crop science, climate resilience, natural resource management, food systems, agricultural policy, innovation and international development, creating opportunities for meaningful dialogue and collaborative action across the global dryland agriculture community.

Global Agri Events & Conferences Zone

Dryland Congress

*Transforming Dryland Agriculture
through Science, Innovation and
Global Collaboration*

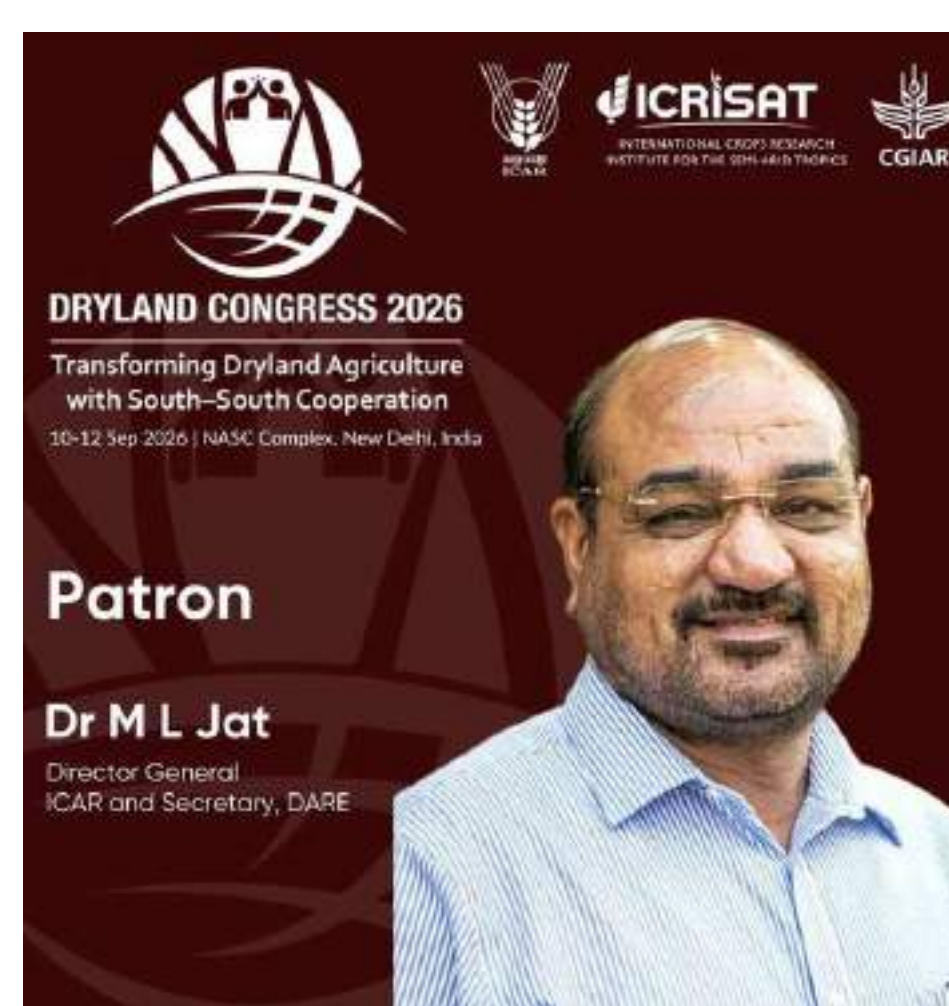
Beyond the Congress –

Dryland Congress 2026 represents more than an international gathering. It provides a platform where research, innovation and collaboration converge to address the prospects of agriculture in some of the world's most climate-sensitive regions.

By bringing together scientists, policymakers, development organisations, industry and farming communities, the Congress aims to accelerate solutions that are practical, scalable and relevant to dryland farming systems.

Equally important is its emphasis on South-South cooperation, encouraging countries with similar agroecological conditions to share knowledge, technologies and successful practices.

Such collaboration strengthens research partnerships and helps translate scientific advancements into real-world agricultural outcomes.



Editor's Perspective –

At KhetiValah Global Agri Magazine, we believe that meaningful agricultural progress depends on the exchange of ideas as much as technological innovation.

Dryland Congress 2026 reflects this spirit by creating opportunities for collaboration, knowledge sharing and partnerships that can contribute to more resilient and sustainable farming systems.

We look forward to fruitful deliberations in the congress to come out with a strategy of implementable and effective solutions for a sound and sustainable future of dryland agriculture.

**Scan QR
code to
Learn
More**



**Learn More
Dryland Congress 2026
10-12 September 2026 | New Delhi, India
Organised by: ICRISAT and ICAR
Official Website: <https://drylandcongress.icrisat.org/>**

Agri-Horticultural Society

Hyderabad

Cultivating Knowledge,
Inspiring Generations



Feature by -

Lakshman K

Founder, KhetiValah
Global Agri Magazine

Every agricultural landscape is shaped not only by fertile soil and favourable seasons, but also by institutions that quietly preserve knowledge, encourage innovation and connect people with purpose. While many organisations are recognised for individual projects or short-term achievements, only a few sustain their relevance across generations.

During our editorial exploration of organisations contributing to India's agricultural and horticultural development, the Agri-Horticultural Society, Hyderabad stood out as one such institution.

Established in **1953**, in the historic **King Kothi Palace** of Hyderabad & later in 1980s shifted to public garden, the Society has devoted more than seven decades to advancing horticulture through knowledge sharing, practical training and public engagement.

Its journey reflects the enduring value of a voluntary institution that has consistently complemented government initiatives while building a bridge between scientific expertise and community participation. Rather than defining itself through a single programme, the Society has evolved into a platform where researchers, horticulturists, agricultural professionals, educators, administrators, gardeners and farmers have come together with a shared commitment of promoting horticultural excellence.

Fundamentals & Roots

One of the Society's most significant contributions has been its commitment to the production of quality planting material. Every successful orchard begins with a healthy sapling, and the availability of authentic planting material remains fundamental to productive horticulture.

Through the systematic production and distribution of fruit, flowering and ornamental plants, the Society has supported government programmes, farming communities and household gardeners across different regions.

These efforts have not only encouraged the adoption of improved planting practices but have also contributed to the expansion of horticultural cultivation over the years.

Equally remarkable has been its investment in human capacity. The Society recognised early that sustainable horticultural development depends on skilled people as much as healthy plants.

Training programmes in nursery management, plant propagation, home gardening, terrace cultivation, bonsai, hydroponics, medicinal plants and value addition have created opportunities for students, professionals, entrepreneurs, homemakers and farmers to develop practical skills.

For many participants, these programmes became pathways to skill development, employment and entrepreneurship.

Beyond technical training, the Society has successfully brought horticulture closer to the public.

Flower shows, fruit exhibitions, bonsai displays, educational events and gardening initiatives have transformed horticulture into an engaging community experience.

These activities have inspired public appreciation for plants and green spaces while encouraging citizens to participate actively in creating healthier and aesthetic environments.

Strength & Confidence

Another defining strength of the Society is its role as a trusted technical institution. Over the years, its expertise has supported quality assessments of public horticultural works, consultancy assignments and specialised studies for government agencies.

Such responsibilities are entrusted only to organisations that demonstrate professional competence, credibility and consistency.

This confidence has been earned by the Society through decades of dedicated service rather than through recognition alone.

Knowledge sharing has always remained the centre of the Society's journey. National seminars, workshops, guest lectures and technical publications have created opportunities for scientists, researchers, extension professionals and practitioners to exchange ideas and share their experiences.



International engagement, including its association with the **Royal Horticultural Society in the United Kingdom** and academic interactions with **Cornell University**, reflects its commitment to learning from global experiences while remaining firmly rooted in local priorities.

The evolution of the Society can also be understood through a series of significant milestones. **Established in 1953**, it later gained formal registration, strengthening its institutional foundation.

The introduction of major horticultural exhibitions created public awareness on an unprecedented scale, while specialised programmes such as the School of Gardening expanded opportunities for practical learning.

Professional training initiatives supported by the Government of India contributed to skill development and employment generation.

International collaborations broadened its outlook, and the technical quality assessments

of public horticultural projects reinforced its standing as a reliable professional institution.

The recent consultancy assignments and specialised studies have demonstrated its technical competence and relevance in addressing emerging horticultural challenges.

The Agri Horticultural Society, Hyderabad, drives the city's green revolution.

Its major achievements include conducting the state's **first horticultural show in 1981**, preparing the palm oil feasibility report for Telangana farmers, and executing quality control for **GHMC and HMDA** horticulture projects.

Impacts –

The society has significantly impacted agriculture and urban landscaping through several key milestones like -

- **Urban Gardening & Training:** The society hosts expert-led training batches on terrace gardening, organic farming, Bonsai, and hydroponics, making sustainable urban living highly accessible to city dwellers.
- **City Beautification:** It played an instrumental role in city aesthetics by conducting quality control checks for large-scale horticulture projects under the erstwhile MCH, GHMC, and HMDA.
- **State & National Recognition:** The government officially endorsed its initiatives on par with ITDA and SC/ST societies for providing quality plant material.
- **Pioneering Shows:** Starting with the first horticulture show in erstwhile Andhra Pradesh, the society continues to organize major agricultural events, empowering local farmers and gardeners.

The Journey of Agri-Horticultural Society

OUR JOURNEY. OUR IMPACT.

Milestones of Growth & Impact

1953	1976	1991	1994	1997	1997	1999	2000	2003 ONWARDS	2017	2017
Establishment Established the Agri-Horticultural Society, Hyderabad.	Registration Registered under the Societies Registration Act for institutional strength and continuity.	Republic Day Horticultural Show Created a major public platform for promoting horticulture.	All India Mango Show Showcased India's rich mango diversity and horticultural excellence.	Affiliation with RHS, UK Affiliated with the Royal Horticultural Society, UK – a proud international association.	School of Gardening Expanded horticultural education for the wider public.	Gardeners' Training Programme Built professional skills and created meaningful employment opportunities.	Cornell University Engagement Strengthened international academic collaboration.	Quality Inspections of Public Projects Reinforced technical standards in urban horticulture.	Telangana Udyana Mahotsavam Demonstrated innovative rooftop gardening concepts.	Oil Palm Consultancy Study Contributed technical recommendations for horticultural planning in Telangana.

SEVEN DECADES OF SERVICE. COUNTLESS LIVES IMPACTED.

From a humble beginning to a globally connected institution – our journey continues.

Recent Notable Achievements –

Telangana Rythumahotsavam 2025

The Society has organized TELANGANA RYTHUMAHOTSAVAM 25 in collaboration with Exhibition Society & Economic Society and Government of Telangana from 11th April to 14th April 25 at exhibition grounds, Nampally.

It was inaugurated by Sri Gutha Sukender Reddy Chairman, Telangana Legislative Council with Guest of Honour Sri. M. Kodanda Reddy,Chairman, Telangana Agriculture & Farmers Welfare Commission.

Sri Tummala Nageshwar Rao, Minister of Agriculture and Sericulture also graced the ocassion besides many dignitaries and farmers.

Farmer Training Sessions took place on all 4 days of the show and thousands of farmers from various districts of Telangana participated in the training sessions on agriculture and allied enterprises.

National Conclave cum EXPO on Sendriya (Organic) farming for VIKASIT BHARAT.

It was organised by the Society in association with Bharatiya Kisan Sangh & Bharatiya Agro Economics & Research Centre, Hyderabad, from 26.2.2026 to 28.2.2026 & 01.3.2026 at RVK High School, Annojiguda, Ghatkesar Mandal, Hyderabad.

Key objectives: To enhance knowledge and skills in Natural farming.

Capacity Building of Farmers across India in key challenging areas of farming viz. enhance oil seed production and reduce foreign exchange outgo, Farm credit awareness and financial literacy.

As this programme is meant for the whole of India, the participants came from different states viz. Telangana , Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, Madhya Pradesh, Gujarat, UP, Bihar and NE States



IMPACT AREA		HIGHLIGHTS
	Fruit, flowering and ornamental plants distributed	• 2.50 Crore
	Additional horticultural area supported	• 75,000 hectares
	Life Members	• 650 +
	Gardeners trained	• 225+
	Nursery entrepreneurs developed	• 100+
	Quality inspections completed	• 9000 +



Behind every milestone there was a tremendous and concerted effort. The Society has benefited from the guidance of dedicated office bearers, the commitment of its Executive Council, the expertise of scientists and technical professionals, and the support of its life members and collaborators.

This shared leadership has enabled the institution to sustain continuity while adapting to changing needs over the decades. Today, under the leadership of **Sri Sudhaker Rao, Chairman, Sri Ranga Rao, Secretary, and Dr A. Veerabhadra Rao, Treasurer**, the Society continues to uphold the values upon which it was founded while exploring new opportunities to strengthen horticultural development.

We, as editors, often come across organisations with impressive achievements. Yet, the true measure of an institution lies not only in what it has accomplished, but in the confidence it continues to inspire.

The **Agri-Horticultural Society, Hyderabad** represents that enduring confidence. Its story reminds us that meaningful agricultural progress is achievable through single minded commitment, professional integrity and the willingness to share knowledge across generations.

As agriculture responds to changing climate, evolving technologies and new societal expectations, institutions like the Agri-Horticultural Society remain more relevant now than ever.



Their experience provides continuity; their knowledge supports innovation; and their commitment to public service strengthens the agricultural ecosystem. Recognising such institutions is not just about celebrating the past. It is an acknowledgment of the foundations on which future progress will continue to flourish.



As agriculture and horticulture continue to evolve, the Society remains committed to strengthening knowledge, encouraging innovation and serving the community.

Its next chapter will be shaped by the same principles that have guided its momentous journey since 1953.

AGRI IMPACT LEADERS

Dr. Khadar Valli Dudekula

The Scientist Connecting Food, Farming
& Human Health

Millet Man of India

When food is wrong, medicine
is of no use.
When food is right, medicine is
of no need.

By **Lakshman K**

Founder & Editor,

KhetiValah Global Agri Magazine



A Scientist Who Reconnected Food, Farming and Nature

Agriculture shapes more than our fields. It shapes the health of our people, the resilience of our ecosystems and the future of our food systems. Throughout his distinguished career, **Dr. Khadar Valli** has consistently urged the society to view these connections as inseparable.

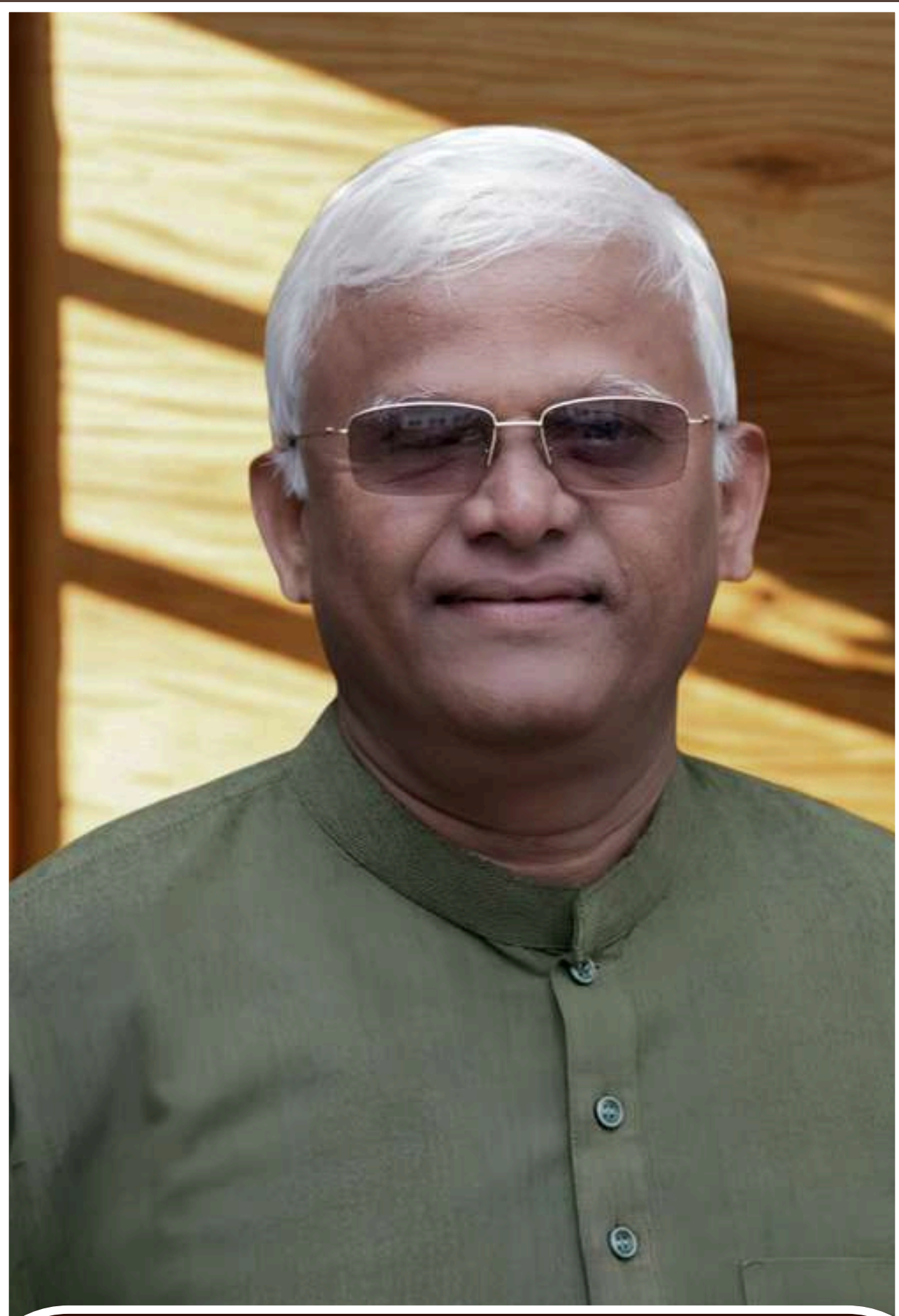
Recognised across India for his advocacy of traditional millets, biodiversity and sustainable farming, Dr. Khadar Valli has inspired farmers, researchers, students and consumers to rediscover the value of indigenous crops and nature-based agricultural practices.

His work has brought renewed attention to the role of traditional food systems in supporting resilient agriculture and informed public discussions on nutrition, soil health and environmental stewardship.

For the inaugural edition of Agri Impact Leaders, KhetiValah Global Agri Magazine is honoured to feature Dr. Khadar Valli for his enduring and praiseworthy contribution to dietary awareness and his efforts to blend scientific understanding with traditional agricultural wisdom. His journey reflects a lifelong commitment to encourage meaningful conversations about the future of farming, food and sustainability.

As we begin this new editorial series, we celebrate not just an individual, but his ideas that will continue to influence agricultural thinking across generations.

At a glance



Dr. Khadar Vali

Profession

Scientist, Agricultural Thinker and Public Educator

Known For

Reviving awareness of traditional millets
(**Siridhanya**) & promoting sustainable agriculture

Areas of Contribution

Traditional Millets • Sustainable Agriculture • Soil Health
• Biodiversity • Food Systems • Nutrition Awareness

Awards & Recognition

Dr. Khadar Vali, widely known as the "Millet Man of India", has received several prestigious awards for his contributions to agricultural science, nutrition advocacy, and the revival of traditional millets:

- ➔ **Padma Shri (2023):** India's fourth-highest civilian honor, awarded by the Government of India for distinguished service in the field of Science and Engineering.
- ➔ **BRICS-CCI Sustainable Agriculture Visionary Award (2024):** Awarded for his visionary leadership in agricultural innovation and promoting sustainable, millet-based ecological farming.
- ➔ **Krishiratna Award (2021):** Bestowed by the Raithu Nestam Foundation for empowering farmers and promoting millet cultivation.
- ➔ **Ahimsa Prashasti Award (2015):** Presented by the Jain Samaj in Mysuru in recognition of his non-violent approaches to agriculture and holistic health.

Why he Matters

- ➔ **Revived national interest** in traditional millets and indigenous grains.
- ➔ **Promoted sustainable farming** and biodiversity-based agricultural practices.
- ➔ Encouraged dialogue linking **food systems**, farming and **environmental sustainability**.
- ➔ **Inspired generations** of farmers, researchers and young agricultural professionals.
- ➔ Contributed to the growing **movement for climate resilient** and nutrition sensitive agriculture.

Editor’s Intro

Agriculture is not only about producing more food. It is about producing nutritious food, conserving nature and creating a healthier future.

It’s a privilege to recognise and honour the **Agri Impact Leaders**, whose ideas have immensely influenced the agricultural outlook and brought a positive change in the people’s perspective about food.

Dr. Khadar Vali began this journey of transformation as a scientist, and his work has inspired millions to rediscover the value of traditional grains, sustainable farming and the enduring connection between agriculture and human well-being.

The Journey

From Research Scientist to People's Educator –

Every meaningful movement begins with a moment of purpose. In case of Dr. Khadar Vali, that purpose emerged from years of scientific research and a growing conviction that agriculture, food and health cannot be treated as separate entities, they are interlinked.

His academic journey began with postgraduate studies at the **Regional College of Education, Mysuru**, followed by a PhD from the **Indian Institute of Science (IISc), Bengaluru**.

His research career took him beyond India as a post-doctoral fellow in environmental science in Oregon, USA.

He later worked with the **Central Food Technological Research Institute (CFTRI)** and the multinational company, DuPont before making a life-changing decision to return to Mysuru and dedicate himself to public awareness and community engagement for a healthy living.

Instead of pursuing a conventional scientific career, Dr. Khadar Vali chose to work directly with farmers, families and communities. Through public lectures, field interactions and educational



programmes, he began encouraging people to rediscover traditional millets, understand the importance of biodiversity and appreciate the role of healthy soils in building sustainable food systems. His message reached beyond agriculture, inviting society to rethink about the relationship between farming, nutrition and environmental stewardship.

Among his notable contributions is the promotion of **Siridhanya**, a group of traditional millets that he believes deserve renewed attention for their resilience and nutritional value.

Alongside, he has advocated **Jungle Krishi**, an approach inspired by natural ecosystems that emphasises biodiversity, soil regeneration and farming in harmony with nature. These ideas have encouraged interactions among farmers, researchers and consumers about sustainable agricultural future.

Today, Dr. Khadar Vali's remarkable and transformative journey stands out as an example of how a blend of scientific knowledge and traditional wisdom, combined with public engagement, can inspire a seachange in peoples' perspective towards resilient agriculture and informed food choices.



The Journey

Innovations, Philosophy & Recognition

"Every meaningful innovation begins with a change in the way we think. Dr. Khadar Vali's contribution lies not only in promoting traditional millets but also in encouraging society to reconnect agriculture, food and environmental sustainability."

Throughout his public life, Dr. Khadar Vali has advocated a holistic view of agriculture, where healthy soils, diverse cropping systems and informed food choices are closely interconnected. His work has inspired renewed interest in traditional grains, biodiversity and farming practices that seek long-term ecological balance. Rather than presenting agriculture as an isolated production system, he has consistently highlighted its relationship with human well-being and environmental stewardship. Among his most recognised contributions is the popularisation of Siridhanya, or traditional "positive millets", encouraging farmers and consumers to rediscover the indigenous grains that are well adapted to dryland agriculture and require fewer natural resources than many conventional cereal crops. He has also promoted Jungle Krishi, a nature-inspired farming approach that draws lessons from forest ecosystems to encourage biodiversity, soil regeneration and ecological resilience.

The Philosophy

"When food is wrong, medicine is of no use. When food is right, medicine is of no need."

This statement reflects his belief that agriculture should produce food that supports healthier lives while respecting nature. Although some of his health-related interpretations continue to be debated

within the scientific community, his advocacy has undeniably contributed to wider public interaction about nutrition, traditional crops and sustainable agriculture.

Innovation Highlights

- Revival of traditional millets (Siridhanya)
- Promotion of Jungle Krishi (nature-inspired farming)
- Advocacy for biodiversity and soil regeneration
- Linking agriculture, food systems and environmental sustainability
- Public education on traditional agricultural knowledge

Impact Snapshot

- Focus Areas -
- Traditional Millets
 - Sustainable Agriculture
 - Soil Health
 - Biodiversity
 - Food Systems
 - Public Awareness

Pioneering Millet-Based Approach to Modern-Day Diseases

A defining aspect of Dr Khadar Vali's pioneering work has been his advocacy of millets as part of a food-based approach to addressing modern-day lifestyle diseases. Through decades of research, observation and public outreach, he has brought renewed attention to the role of traditional millets in dietary practices, particularly in relation to metabolic health and chronic lifestyle conditions. His work has helped reposition millets beyond their identity as traditional grains, presenting them as an important component of preventive nutrition and healthier food systems. Through lectures, farmer engagement and public awareness initiatives, he has encouraged communities to reconsider everyday food choices and reconnect health with diverse, naturally grown traditional crops.



Legacy in Action

- Ignited renewed interest in traditional grains.
- Encouraged dialogue on sustainable farming.
- Connected scientific thinking with indigenous agricultural knowledge.
- Brought millets into mainstream agricultural and public discussions.

A Legacy Beyond Millets

Legacy, Reflections & The Road Ahead

Dr. Khadar Vali's legacy extends beyond the revival of traditional millets. His work has encouraged a broader conversation about the future of agriculture, reminding us that resilient farming depends on healthy soils, biodiversity, responsible food systems and informed communities.

His advocacy has inspired farmers, researchers, educators and young professionals to revisit traditional agricultural knowledge while engaging with contemporary challenges such as climate resilience, nutrition and sustainable resource management.

As agriculture continues to evolve in response to changing environmental and societal needs, his journey demonstrates the value of questioning conventional practices and exploring solutions rooted in both scientific enquiry and indigenous wisdom.

Through farmer interactions, public awareness programmes and educational outreach, Dr. Khadar Vali has contributed to a growing movement that encourages agriculture to be viewed not only as an economic activity but also as a foundation for ecological and community well-being.

Five valuable Lessons from Dr. Khadar Vali

- Healthy agriculture begins with healthy soils.
- Traditional knowledge deserves scientific attention and continued research.
- Biodiversity strengthens resilient farming systems.
- Farmers are custodians of valuable knowledge and innovation.
- Sustainable food systems require collaboration between science, agriculture and society.

Daughter, Doctor and Knowledge Ambassador

Insights from Dr. Sarala

Growing up with my father meant learning that agriculture is not simply about cultivating crops; it is about understanding nature, respecting every living system and making thoughtful choices every day. His greatest lesson has always been that knowledge becomes meaningful only when it is shared for the benefit of society.

Having seen so much of the world, the most excited I have ever seen my father is when he gets his hands on the seeds or saplings of a rare or forgotten plant.

That, more than anything else, sums up his passion and his purpose—to rediscover, preserve, and make available once again the very best that nature has to offer.

Diversity has always been at the heart of everything he believes in. Whether it is the variety of foods on our plates, the many crops growing together on a single piece of farmland, or the rich diversity of bacteria in the soil that makes our land healthier and more fertile, he sees nature's strength in its abundance, not its uniformity.

For him, every forgotten seed brought back to life is a step towards a more resilient, nourishing, and sustainable future.

That philosophy continues to guide our work and inspires us to carry this mission forward.



The KhetiValah Perspective

Agriculture's future will be shaped not only by new technologies and scientific discoveries but also by the willingness to learn from enduring knowledge systems that have sustained communities for generations.

Dr. Khadar Vali's journey reminds us that meaningful change often begins with a simple question: How can agriculture serve both people and the planet ?

Through Agri Impact Leaders, KhetiValah Global Agri Magazine celebrates the individuals whose ideas inspire dialogue, encourage innovation and contribute to a sustainable and resilient agricultural future.

As the inaugural impact leader in this editorial series, Dr. Khadar Vali represents the spirit of curiosity, commitment and service that profoundly and positively influences agricultural thinking across generations.



KV Dialogue GLOBAL SERIES

A Global English Edition of KhetiValah Dialogues (AgriTalks)

Towards the 50th Session | July 2026

Where Knowledge Grows Beyond Borders



A Global Platform for Agricultural Conversations

The KV Dialogue **Global Series** brings together

- Farmers
- Researchers
- Policymakers
- Sustainability Experts
- Agri-Entrepreneurs
- Universities & Institutions

Via **weekly** one-hour virtual sessions focused on **emerging trends and global perspectives** in agriculture.

Voices from Around the World

INDIA | NEPAL | NETHERLANDS | BELGIUM | EGYPT | PHILIPPINES

The Official Website
of KV Dialogue Global Series is Now Live!

WWW.KVDIALOGUE.IN



Scan & Visit



Become a Speaker at KV Dialogue **Global Series** – **Share Your Knowledge** with the World

KV Dialogue Global Series provides a global platform for experts, researchers, innovators, institutions, and progressive farmers to contribute to meaningful agricultural conversations.

As we approach our 50th session, we invite passionate individuals from across the agricultural ecosystem to join us as speakers and help strengthen global agricultural awareness through knowledge sharing and dialogue.

SESSION FORMAT

DURATION: 1 HOUR

MODE: VIRTUAL

LANGUAGE: ENGLISH

SCHEDULE: EVERY FRIDAY

Register as a Speaker: KVDGS@kvdialoague.com

Mail:

KVDGS@kvdialoague.com

Connecting Local Realities
with Global Perspectives



KVDialoague



www.kvdialoague.com



www.khetivalah.com

Cultivating Knowledge. Connecting Communities. Inspiring Change.



PROF. NARASIMHA NASHATHRI

ABOUT AUTHOR

Prof. Narasimha Nakshathri Karkada is a seasoned agriculture and horticulture specialist with over four decades of experience in agricultural extension, cooperative development, and agri supply chain management.

He has worked closely with the National Dairy Development Board during the era of Dr. Verghese Kurien and played a pioneering role in developing farmer-led vegetable marketing models through SAFAL Growers Associations.

His corporate leadership spans organizations such as Global Green Company, Aditya Birla Retail, and Metro Cash & Carry India, where he contributed to building fresh produce supply chains and farmer-market integration.

Prof. Nakshathri is also an advisor, mentor, and consultant supporting agri-entrepreneurship, food processing, and producer organizations across India.

Lets Talk About Cruicial **Role Of Farmer Producer Organizations (FPO's)**

Fostering Sustainable Farming & Key Challenges in **Food Safety**

By

Prof. Narasimha Nashathri

Consultant : Agri & Horti (Nakshathri Associates)

Co -Founder - FPO Market Linkages Foundation

Advisory Board Member , Sahaja Samruddha Organic Producers Company

Director - FreshOn.in

Director - Agri Intelligence India Pvt Ltd.,

Former Pro-Vice Chancellor, BESTIU, AP

Former National Head of Fresh Food Food Division - Metro Cash & Carry India Pvt Ltd. &

Former Head of Fresh Food division, Aditya Birla Retail Ltd.,

Former Head of Backward Linkages, Safal Fruit & Vegetables auction Market, **MDFPL/NDDB**



The global population is projected to approach **10 billion by mid-century**, while climate change is altering rainfall patterns, increasing temperatures and intensifying droughts and floods.

Agriculture lies at the center of **this crisis**.

Agriculture is not only about Crops Growth

Agriculture is back bone of our economy. It provides food, raw materials and employment to thousands of people. Over the years, agricultural practices have evolved significantly. Today, modern innovations like irrigation, soil sensors and monoculture have led to increase in the productivity.

Agriculture is not only growing crops. It is also about adopting sustainable farming practices to ensure that future generations continue to benefit from our planet's natural resources.

Therefore, one must prioritise organic farming, water conservation and use eco friendly technologies to face issues such as climate change and food security .

Our food demand will increase in the coming decade by 70 to 100% due to population growth, urbanization and change in food habits.

Our resources like land, water and energy are limited due to competition from sectors other than agriculture. Land and water degradation due to misuse or mismanagement of inputs further limits agricultural productivity.

Small holdings and scattered plots will also limit mechanization.

What we need is the organization of farmers into producers' groups that can be linked to supply chain and market efficiently, consolidation of land holdings into viable units for effective mechanization, improvement of rural and agriculture infrastructure, organization of markets nation wide and stabilization of prices for agricultural commodities, inter linking of rivers, management of rain water harvesting, ground water recharge for efficient irrigation of crops and development of cropping systems including crop-animal systems for efficient resource management.

FPOs were launched with great promise to unite small farmers, increase their bargaining power and provide them access to markets, inputs and finance.

On paper, this looked like a revolution for Indian agriculture. In practice, however many FPOs are either struggling or failing.



Few important reasons are:

- **Lack of professional management:** Most FPOs are farmer led, but without trained managers or agribusiness experts. They struggle with accounting, marketing and strategic growth.
- **Over dependence on subsidies:** Government grants help FPOs to start, but too many rely on subsidies and once that stops, operations collapse instead of evolving into sustainable enterprises.
- **Weak market linkages:** While forming FPOs is easy, connecting them with buyers, processors and retailers is missing. Without reliable market access, farmers continue to face low price realization.
- **Limited access to credit:** Banks remain hesitant to finance FPOs due to lack of collateral or proven credit history, leaving them without working capital for aggregation and trade.
- **Trust & participation issues:** Collective models demand transparency and trust. Many FPOs fail because of internal conflicts, uneven participation and lack of farmer ownership in decision making.

The way forward: For FPOs to succeed, the focus must shift from just numbers to capacity building, professional leadership digital tools, and robust linkages.

A farmer group can become a true enterprise only when it moves beyond subsidies and builds resilience through trust, scale and market driven growth.

In the coming years, the focus will not be food security, it will be nutritional security. It is a known fact that the rampant use of fertilizers and pesticides to increase productivity are affecting human health. Due to uncontrolled and increased food adulteration and market competition, consumers are confused to identify the genuine quality of organic products.

The demand for genuine organic or safe food is going to increase in the years ahead. Farmer collectives will have challenges to grow steadily to meet the demand. In addition, protecting producers' interests through better prices and markets for their produce, as well as assuring consumers of quality, safe and healthy food, will remain equally important.

Jai Kisan !



DR. SUDHANSHU SINGH

Dr. Sudhanshu Singh is the Director, CIP South Asia Regional Center (CSARC), Agra & Regional Director – South Asia, International Potato Center (CIP). He assumed this leadership role on 1 April 2026, bringing with him extensive experience in international agricultural research, innovation, strategic partnerships, and regional development across South Asia.

Prior to joining CIP, Dr. Singh served as the Director of the International Rice Research Institute (IRRI) South Asia Regional Centre, where he played a pivotal role in strengthening scientific collaboration, fostering multi-stakeholder partnerships, and promoting research-driven solutions to enhance agricultural productivity, sustainability, and resilience.

At CIP, Dr. Singh provides strategic leadership for the organization's research and development initiatives across South Asia, with a focus on root and tuber crops, climate-resilient agriculture, food and nutrition security, sustainable farming systems, and improved livelihoods for smallholder farmers. He works closely with governments, national agricultural research systems, universities, development organizations, and the private sector to accelerate the adoption of science-based innovations that address emerging agricultural challenges.

His leadership is driven by a commitment to advancing resilient, inclusive, and sustainable food systems that contribute to improved nutrition, rural prosperity, and long-term agricultural transformation across the region.

ABOUT DR. SINGH

FEATURED EXCLUSIVE

July 2026

By **Lakshman K**
Founder & Chairman
KhetiValah Global Agri Magazine



Prof. (Dr.) B. Kumar, CEO
KrishiYashas & KhetiValah Vidhyalaya



Dr. Sudhanshu Singh

Director of CSARC
RD of South Asia, CIP



CIP
INTERNATIONAL
POTATO CENTER





Leadership Journey & Vision

1

Sir, you had a long and successful research experience at the International Rice Research Institute (IRRI), contributing immensely to the management of a very important food crop like Rice, the world's most vital staple crop, providing over 20% of global human caloric intake.

Now as the Director for South Asia at the International Potato Center (CIP), what would be your strategy for the development and expansion of CIP's programs across South Asia ?

»»» **Dr. Singh**

My journey with rice has profoundly shaped the way I think about agriculture. One important lesson I learned is that farmers never look at crops in isolation; they look at their entire farming system. They think about how to make the best use of their land, water, labour, time, and resources throughout the year. That is exactly the perspective I would bring to CIP.

I don't see potato competing with rice. Rice will continue to be the backbone of food security in most parts of South Asia. Potato and sweetpotato, however, can complement rice by diversifying farming systems, improving nutrition, and creating additional income opportunities. In many rice-fallow areas, for example, a short-duration potato crop can make productive use of the period immediately after rice harvest, utilizing residual soil moisture and even rice straw.

CIP'S DG MEETS THE HON'BLE CM OF UTTAR PRADESH.

To me, this is sustainable intensification — producing more value from the same piece of land without compromising the rice crop. Building on this vision, I see CIP's South Asia programme following a clear “science-to-income” pathway, with quality seed at its core. Since potato is propagated vegetatively, diseases accumulate over repeated seed cycles, leading to declining productivity and higher production costs. Innovative technologies such as Apical Rooted Cuttings (ARC) offer a real opportunity to transform seed systems by shortening multiplication cycles, decentralizing seed production, and making healthy planting material more accessible and affordable for farmers. Equally important, they allow promising new varieties to reach farmers much faster.

However, seed alone is not enough. Seed and genetics must advance together.

We need varieties that are not only high-yielding, early maturing, and climate resilient, but also aligned with farmers' needs and market demand. Whether the market is for fresh consumption, processing, storage, seed production, exports, or nutrition, varieties must fit both the production environment and the value chain. Alongside developing new varieties, I would place equal emphasis on systematically evaluating released varieties across different agro-ecologies to identify the

best variety × environment × market combinations and link them directly with seed scaling.

The next priority is resource-efficient production. My experience in rice reinforces the importance of looking at rice and potato as part of one integrated rice-based production system for suitable areas rather than separate crops.

There are tremendous opportunities to improve water use, nutrient recycling, residue management, soil health, mechanization, and labour efficiency across the system.

A good example is Potato Zero-Tillage with Rice Straw Mulching (PZTM), which converts rice residues from waste into a valuable resource while improving productivity and conserving natural resources.

The goal is not simply to produce another potato crop but to create a more profitable and sustainable annual farming system.

At the same time, increasing production alone will not be enough. Production must be closely linked with markets. India is already the world's second-largest producer of potatoes, contributing nearly 14% of global production.

Yet only a very small proportion enters export markets. That tells us the next phase of growth must come from improving quality, strengthening processing, expanding storage, enhancing traceability, promoting value addition, and building stronger market linkages. This vision aligns closely with the mandate of the **CIP South Asia Regional Center (CSARC)**.

When the Government of India approved CSARC in 2025, it envisioned the Center as a catalyst for improving potato and sweetpotato productivity, strengthening post-harvest management, promoting value addition, enhancing nutrition security, increasing farmers' incomes, and generating rural employment. I see CSARC as a platform that connects CIP's global scientific expertise with national research systems, state governments, universities, private companies, farmer producer organizations, and, most importantly, farmers across South Asia.

Ultimately, success should not be measured only by the number of varieties released, technologies developed, or hectares covered. The real question is much simpler: Are farmers earning more from the same hectare?

Are they using water and other resources more efficiently? Are they becoming more resilient to climate and market risks?

If the answer is yes, then our science has truly made a difference in people's lives.

The Future of Root and Tuber Crops

2

Potatoes, sweetpotatoes, and other root and tuber crops are increasingly recognized for their contribution to food security, nutrition, climate resilience, and sustainable livelihoods. How do you see their role in strengthening global food systems and addressing future agricultural challenges?

»» Dr. Singh

The role of root and tuber crops is changing rapidly. Traditionally, they were viewed mainly as food-security crops. Today, they are increasingly recognized as strategic crops that can simultaneously contribute to food security, better nutrition, climate resilience, and economic growth.

As the global population continues to grow and agriculture faces increasing pressure from climate change, shrinking natural resources, and evolving consumer preferences, our food systems must become more diverse and resilient. Potato and sweetpotato have an important role to play in that transformation. They are highly productive crops that produce substantial amounts of food within a relatively short growing period and fit well into a wide range of farming systems and market opportunities.

Potato is no longer just a staple food. It is becoming an important component of the modern food economy. The rapid expansion of processing industries, including French fries, chips, flakes, starch, and other value-added products, is creating new opportunities across the entire value chain. This growth benefits not only consumers but also farmers through higher incomes, creates employment in rural areas, and stimulates agribusiness development.

Sweetpotato brings another important dimension. Beyond being a resilient crop, it offers tremendous nutritional benefits. Biofortified sweetpotato varieties, particularly those rich in provitamin A, have already demonstrated their potential to combat micronutrient deficiencies in many parts of the world. In addition, sweetpotato

serves multiple purposes — as food, feed, industrial raw material, and processing crop — making it highly versatile. As climate risks continue to intensify, crops that combine productivity, nutrition, and resilience will become even more valuable.

If I had to summarize the future contribution of root and tuber crops in three words, they would be diversification, resilience, and value.

Diversification strengthens farming systems, resilience helps farmers cope with uncertainty, and value addition creates new economic opportunities.

Together, these qualities position potato and sweetpotato as strategic crops for building more sustainable, nutritious, and resilient global food systems.

Climate Resilience & Sustainable Agriculture

3

Climate change continues to present significant challenges for agricultural production and farmer livelihoods worldwide. How is CIP supporting farming communities in building resilience and adapting to changing environmental conditions?

»» Dr. Singh

Climate change is undoubtedly one of the greatest challenges facing agriculture today. Rising temperatures, erratic rainfall, increasing water scarcity, extreme weather events, and the growing incidence of pests and diseases are affecting agricultural productivity and threatening the livelihoods of millions of farmers across South Asia.

At CIP, we are addressing this challenge through a comprehensive approach that helps farmers build resilience at multiple levels.

The first priority is developing climate-resilient varieties. Our breeding programmes focus on potato and sweetpotato varieties that can withstand heat, drought, and other environmental stresses while maintaining high productivity and quality. We are also strengthening resistance to major pests and diseases, which are becoming more problematic as climatic conditions change.

The second pillar is promoting climate-smart farming practices that improve productivity while making more efficient use of natural resources. This includes better water management, precision nutrient application

integrated pest management, mechanization, and sustainable soil management.

Potato Zero-Tillage with Rice Straw Mulching, which I mentioned earlier, demonstrates how farmers can simultaneously increase productivity, conserve resources, improve soil health, and reduce environmental impacts.



DR. SINGH IS WELCOMED ON JOINING CSARC.

The third pillar is partnerships. Scientific innovations create impact only when they reach farmers at scale.

That is why CIP works closely with governments (e.g. MoA&FW, GOI), national agricultural research systems (e.g. ICAR), universities, development partners, and the private sector across South Asia.

These partnerships help ensure that climate-smart technologies are adapted to local conditions and become accessible to farming communities.

For us, building resilience is about much more than protecting yields. It is about empowering farmers to adapt, prosper, and confidently face an increasingly uncertain future.

That is ultimately the true measure of climate resilience.



Carbon & Water Footprints

4

How do you rate potato as an environmentally sustainable staple crop considering escalating global water scarcity and the need for agricultural systems with lower carbon footprints ?

»»» **Dr.Singh**

Potato is one of the most resource-efficient staple crops available today. While no crop is completely free of environmental impact, potato offers an excellent combination of high productivity, efficient resource use, and compatibility with sustainable farming practices, making it highly relevant for the future of global agriculture.

One of its greatest strengths is its efficient use of both water and land. Compared with many other staple crops, potato can produce a large quantity of edible food using relatively less water. Its short growing cycle also gives farmers greater flexibility within cropping systems, allowing them to increase annual productivity from the same piece of land.

From a climate perspective, potato also has important advantages. Unlike flooded rice systems, potato cultivation generates negligible methane emissions, and its shorter crop duration generally requires fewer resources over the season. This contributes to a relatively lower greenhouse gas footprint and makes potato well suited to low-carbon agricultural systems.

Of course, there is still room for improvement. Better nutrient management, more efficient irrigation, improved post-harvest storage, and wider adoption of precision agriculture can further reduce the environmental footprint of potato production. Likewise, innovations in renewable energy, integrated pest management, and climate-smart agronomic practices are helping make potato cultivation even more sustainable.

As the world strives to produce more food with fewer natural resources, potato offers an attractive balance of productivity, environmental sustainability, and resilience.

I believe it will continue to play an increasingly important role in building food systems that are both productive and environmentally responsible.

Nutrition Security and Healthy Food Systems

5

As the world faces the dual challenge of food insecurity and malnutrition, how is CIP contributing to better nutrition outcomes and healthier food systems ?

»»» **Dr.Singh**

Today, agriculture is no longer judged only by how much food it produces. It is increasingly expected to deliver healthier, more diverse, and nutritious diets. Nutrition, therefore, has become a central objective of agricultural development, and this is an area where CIP has made significant contributions over many years.

Through our breeding programmes, we are developing potato and sweetpotato varieties with enhanced nutritional qualities, including higher levels of essential micronutrients and other health-promoting compounds. The objective is not simply to increase production but to improve the nutritional value of what people consume.

One of the most successful examples is orange-fleshed sweetpotato, which is naturally rich in provitamin A. It has already helped improve the nutrition of millions of women and children around the world by addressing vitamin A deficiency. We are also advancing research on sweetpotato varieties with higher iron content and improved antioxidant properties, while exploring opportunities to further strengthen the nutritional profile of potato.

However, improved varieties alone cannot solve nutrition challenges. Farmers need access to quality planting material, consumers need greater awareness of nutritious foods, and value chains must ensure that these products reach markets efficiently and remain affordable. That is why our approach combines crop improvement with strong seed systems, nutrition education, market development, and value-chain strengthening.

Ultimately, nutrition-sensitive agriculture requires looking beyond the crop itself. By integrating breeding, seed systems, markets, and consumer awareness, CIP is helping build food systems that are not only more productive, but also healthier, more inclusive, and better able to meet the nutritional needs of future generations.



**DR. SINGH WITH COLLEAGUES
DURING A VISIT TO THE CIP HQ.**

Commercialization and Farmer-Centric Business Models

6

What farmer-centric business models and commercialization pathways are most effective in creating sustainable prosperity for smallholder farmers ?

In my view, every successful agricultural business model should begin with the market, not the field. The first question should never be **“What can farmers produce ?”** Instead, it should be **“What do consumers and markets actually need ?”** Once that is understood, the entire value chain — from variety selection to seed, production, aggregation, processing, and marketing — can be aligned to meet that demand.

A farmer-centric approach starts by understanding market requirements, identifying the right varieties, ensuring timely access to quality seed, and then supporting farmers with efficient production technologies and strong market linkages. Productivity only translates into prosperity when it is connected to profitable markets.



ICAR'S DG IS WELCOMED AT CIP.

One of the greatest opportunities lies in quality seed. Decentralized seed enterprises, farmer producer organizations (FPOs), and partnerships with the private sector can significantly improve farmers' access to healthy planting material while creating new opportunities for rural entrepreneurship and local employment. Aggregation is equally critical.

Most smallholders struggle to access processors, exporters, storage facilities, or large institutional buyers on their own. Strong farmer organizations and producer enterprises help overcome these constraints by improving bargaining power, reducing transaction costs, and enabling farmers to participate in larger and more rewarding markets.

Looking ahead, value addition will become increasingly important. Processing, grading, storage, traceability, branding, and quality assurance all create additional value along the supply chain and open access to premium domestic and international markets.

Ultimately, the most sustainable business model is one that brings together science, entrepreneurship, and market demand, while ensuring that farmers receive a fair share of the value they help create.

When innovation is driven by market opportunities and farmers are treated as entrepreneurs rather than simply producers, agriculture becomes a pathway to long-term prosperity.

Innovation, Science, and Digital Transformation

7

Which emerging innovations do you believe have the greatest potential to transform agriculture over the next decade ?

»»» Dr. Singh

Agriculture is entering an exciting era where advances in biology, digital technology, data science, and engineering are coming together in ways we have never seen before. I believe it is this convergence of technologies, not any single innovation, that will drive the next wave of agricultural transformation.

In crop improvement, breakthroughs in genomics, gene editing, molecular breeding, and digital breeding platforms are dramatically accelerating the development of improved varieties.

These technologies enable us to respond much faster to emerging challenges while developing crops that are more productive, climate-resilient, and nutritionally superior.

At the farm level, digital agriculture is already transforming how decisions are made. Artificial intelligence, satellite imagery, remote sensing, drones, and mobile-based advisory platforms are helping farmers make more informed and timely decisions on irrigation, nutrient management, pest control, and climate risk.

These technologies have the potential to make farming more precise, efficient, and profitable.

Precision agriculture is another area with tremendous promise.

By applying the right input at the right place and the right time, farmers can reduce production costs, improve resource-use efficiency, and minimize environmental impacts.

When integrated with climate-smart farming practices, these innovations can significantly enhance both productivity and sustainability. That said, technology alone is never the answer. Its real value lies in how effectively it reaches farmers and addresses their everyday challenges. The greatest impact will come when scientific innovation is supported by strong extension systems, farmer capacity building, and inclusive partnerships that make new technologies affordable, accessible, and relevant to smallholders. Innovation should not only be cutting-edge — it should also be practical, scalable, and inclusive.



DR. SINGH IN CONVERSATION WITH FARMERS IN THE FIELD.

Inspiring the Next Generation

8

What message would you like to share with young researchers, students, entrepreneurs, innovators, and future leaders ?

My message to young people is simple: **start with the problem, not the technology.**

Agriculture today offers tremendous opportunities for innovation, but real impact comes from understanding the challenges farmers face every day. Technology has value only when it improves livelihoods, reduces risks, or creates new opportunities for farming communities.

I encourage young researchers to think beyond individual disciplines and adopt a systems perspective. Farmers do not manage isolated crops — they manage livelihoods. Understanding how production, markets, nutrition, climate, natural resources, and economics interact is essential for developing solutions that are



DR. SINGH RECEIVES THE GAURAV SAMMAN AWARD.

practical, scalable, and sustainable.

I would also urge young innovators to spend time where agriculture actually happens — in farmers' fields, village communities, markets, processing facilities, and seed enterprises. Some of the most valuable lessons are learned outside laboratories and classrooms.

Listening to farmers often provides insights that no textbook can offer.

Above all, remain curious, collaborative, and committed to solving real-world problems. The future of agriculture will belong to people who can bridge science, entrepreneurship, policy, and development to create solutions that improve lives.

Agriculture is far more than producing food. It is about creating opportunities, strengthening communities, protecting natural resources, and building a healthier and more sustainable future for generations to come.

A Vision for the Next Decade

9

Looking ahead to the next ten years, what is your roadmap for building resilient, inclusive, climate-smart, nutrition-sensitive, and economically sustainable food systems in South Asia?

»» Dr. Singh

The coming decade presents an extraordinary opportunity to reshape agriculture across South Asia.

Our vision is to establish the CIP South Asia Regional Center (CSARC) as a leading regional hub for scientific innovation, partnerships, and capacity development that translates research into large-scale impact for farmers and food systems.

Our roadmap is built around six strategic pillars.

First, we will continue advancing climate-resilient crop improvement by developing the next generation of potato and sweetpotato varieties that combine higher productivity, better nutritional value, and greater resilience to heat, drought, pests, diseases, and other environmental stresses.

Second, we will modernize seed systems by expanding farmers' access to high-quality planting material through innovative multiplication technologies such as Apical Rooted Cuttings (ARC), decentralized seed enterprises, and strong public-private partnerships. Better seed remains the foundation for improving productivity and profitability.

Third, we will accelerate the adoption of climate-smart production systems through practices supporting regenerative agriculture that enhance productivity while improving water-use efficiency, soil health, nutrient management, and overall environmental sustainability. Our focus will be on producing more with fewer resources while building resilience to climate change.

Fourth, we will strengthen nutrition-sensitive and market-oriented value chains by improving post-harvest management, storage, processing, value addition

and market linkages.

Increasing production alone is not enough; we must also ensure that farmers receive better returns and consumers have access to safe, nutritious, and affordable food.

Fifth, we will invest significantly in people and institutions. Building the next generation of scientists, extension professionals, entrepreneurs, and farmer leaders will be essential for sustaining innovation and accelerating its adoption across the region.

Finally, we will deepen regional partnerships and policy engagement by working closely with national agricultural research systems, governments, universities, development partners, the private sector, and farmer organizations.

Lasting impact can only be achieved through strong collaboration and shared commitment.

Ultimately, our ambition goes well beyond increasing potato and sweetpotato production.

We want these crops to become important drivers of resilient, inclusive, climate-smart, nutrition-sensitive, and economically sustainable and diversified food systems across South Asia.

Listening to farmers often provides insights that no textbook can offer.

At the end of the day, success should be measured not by reports or statistics, but by real improvements in people's lives.

If farmers are earning more from the same resources, consumers have access to healthier diets, young people see agriculture as a sector of opportunity, and our farming systems become more resilient to future challenges, then we will know we have succeeded.

That, to me, is the true roadmap for the decade ahead.



DR. SINGH ALONG WITH OTHER DELEGATES AT THE RICE POLICY DIALOGUE (RPD).

ABOUT CIP

The **International Potato Center (CIP)** is a global research-for-development organization and a member of the CGIAR network, headquartered in Lima, Peru.

Led by **Dr. Simon Heck, Director General**, CIP has a research presence in more than 20 countries across Africa, Asia, and Latin America.

Since its **establishment in 1971**, the organization has advanced science-based innovations in potatoes, sweetpotatoes, and other root and tuber crops to strengthen food and nutrition security, climate resilience, and sustainable livelihoods.

The **CIP South Asia Regional Center (CSARC) in Agra, India**, serves as the regional hub for South Asia, fostering research, innovation, strategic partnerships, and capacity building to accelerate sustainable agricultural development and resilient food systems across the region.



WITH RESPECT AND GRATITUDE

We sincerely thank **Dr. Sudhanshu Singh, Director, CIP South Asia Regional Center (CSARC), Agra and Regional Director – South Asia, International Potato Center (CIP)**, for sharing his valuable insights through this exclusive Cover Story Interview and for gracing the cover of the **July 2026 edition of KhetiValah Global Agri Magazine (e-magazine)**.

We also extend our sincere appreciation to **Mr. Syed Mohammad Waqaar, Research Assistant (Regenerative Agriculture), CIP South Asia Regional Center (CSARC), International Potato Center (CIP)**, for his valuable support and coordination throughout the interview process.

We are grateful for their contribution in helping us share inspiring perspectives on agricultural research, innovation, climate resilience, and sustainable food systems with our global readership.

Thank You



TattvaVedika

(तत्त्व वेदिका | తత్త్వ వేదిక)

From Algorithms to Awareness



A Platform for Essential Dialogues in AI & Beyond.

About the TattvaVedika

TattvaVedika (तत्त्व वेदिका / తత్త్వ వేదిక) is a global initiative under KhetiValah Dialogues dedicated to advancing meaningful conversations around Artificial Intelligence and its role in Agriculture, Education, Healthcare, Sustainability, and Human Development.

TattvaVedika Global AI Dialogues.

Starting July 2026 | Every Wednesday
Global Virtual Sessions | English

Become a Speaker We Invite

- AI & Data Science Professionals
- Researchers & Academicians
- Startup Founders & Innovators
- Educators & Knowledge Leaders
- Ethicists, Futurists & Policymakers
- AI Experts in Agriculture, Education & Healthcare



Coming Soon

TattvaVedika Magazine.
A Bi-Monthly Global AI Publication



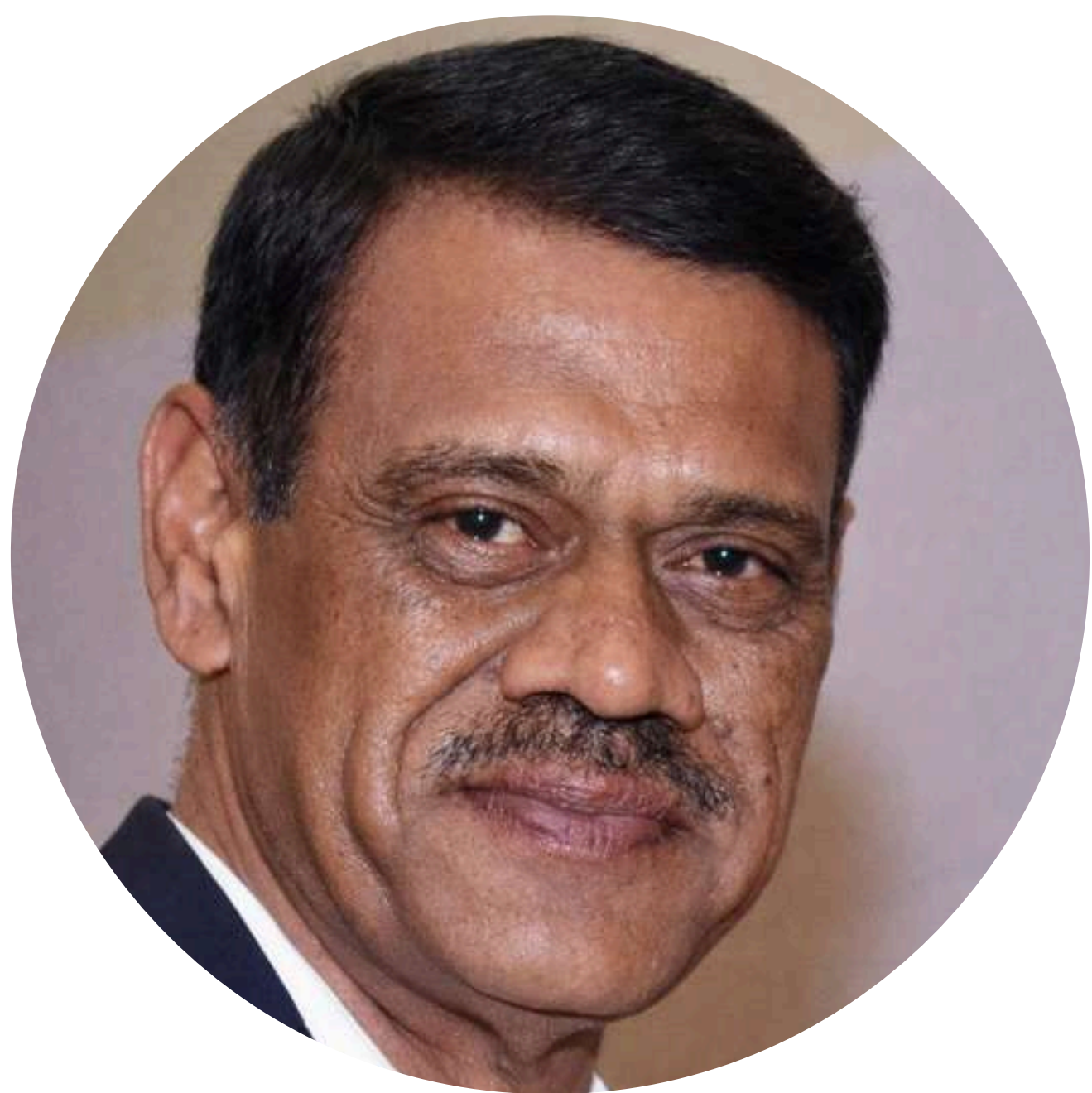
Scan & Register



Join the Dialogue. Shape the Future.

www.tattvavedika.com
www.kvdialogue.com

CONTACT info@tattvavedika.com



DR. ANURAG SAXENA

Let's Talk About Restoring Land & Building Resilience

Against Desertification & Drought By

Dr. Anurag Saxena, ICAR–National Dairy Research Institute, Karnal

Dr. Mahesh K. Gaur, ICAR–Central Arid Zone Research Institute, Jodhpur

Dr. Preety Rajkumari, ICAR–National Dairy Research Institute, Karnal



DR. MAHESH K. GAUR



DR. MS. PREETY RAJKUMARI



National Dairy
Research Institute

ABOUT AUTHORS

Dr. Anurag Saxena

is a distinguished agricultural scientist with over 35 years of experience in agricultural research, natural resource management, climate-resilient farming, and the application of Artificial Intelligence in agriculture.

He currently serves as Principal Scientist and In-charge of the Forage Research & Management Centre at ICAR–National Dairy Research Institute (NDRI), Karnal.

A Ph.D. in Agronomy from G.B. Pant University of Agriculture and Technology, Pantnagar, Dr. Saxena has contributed extensively to sustainable agriculture in both the hot arid regions of Rajasthan and the cold arid ecosystems of Ladakh.

His research focuses on water management, climate adaptation, cropping systems, protected cultivation, and agricultural sustainability.

Dr. Mahesh K. Gaur

is Principal Scientist at ICAR–Central Arid Zone Research Institute (CAZRI), Jodhpur.

His research encompasses arid land geography, satellite remote sensing, GIS, digital image processing, drought, desertification and land degradation, indigenous knowledge systems and the socio-economic dimensions of drylands.

Dr. Ms. Preety Rajkumari

is a Ph.D. Scholar at ICAR–National Dairy Research Institute (NDRI), Karnal. Hailing from Imphal, Manipur, she earned her degrees in Agronomy from the Central Agricultural University, Imphal. Her research focuses on climate–agriculture interactions, particularly the impacts of climate variability and extreme weather events on fodder crop productivity and sustainable agricultural systems.



Crop failures, fodder shortages, depletion of water resources, livestock mortality and reduced household incomes are **common consequences of prolonged droughts.**



Healthy land is the foundation

Every year on 17 June, the world observes the World Day to Combat Desertification and Drought to raise awareness about the urgent need to protect land resources and strengthen resilience against drought. The day reminds us that healthy land is the foundation of food production, water security, biodiversity conservation and sustainable livelihoods. As climate change intensifies and pressure on natural resources increases, combating desertification and drought has become one of the most important global environmental priorities.

Drylands occupy nearly 41 percent of the Earth's land surface and support a significant proportion of the world's population and livestock. These regions include arid, semi-arid and dry sub-humid areas characterized by low and erratic rainfall, high temperatures, intense evaporation and fragile ecosystems. Despite their harsh environmental conditions, drylands play a crucial role in food production, livestock rearing and livelihood support. However, these ecosystems are increasingly threatened by land degradation, desertification and recurring droughts.

Desertification refers to the degradation of land in dryland areas resulting from climatic variations and human activities. Contrary to popular belief, desertification does not mean the physical expansion of deserts. Rather, it is the gradual decline in the productive capacity of land due to loss of vegetation, soil erosion, nutrient depletion, salinization and declining water availability.

Productive agricultural lands, grazing areas and forests slowly lose their ability to support crops, livestock and human populations.

Consequences Of Droughts

Drought is one of the most damaging manifestations of climate variability in dryland regions. It develops slowly but leaves long-lasting impacts on agriculture, livestock, water resources and rural livelihoods. In arid regions, drought is often considered a recurring phenomenon rather than an occasional disaster.

Crop failures, fodder shortages, depletion of water resources, livestock mortality and reduced household incomes are common consequences of prolonged droughts.

The increasing frequency and intensity of droughts under climate change scenarios further aggravate these challenges.

India possesses a vast expanse of arid and semi-arid lands covering nearly 38.9 million hectares, accounting for about 12 percent of the country's geographical area. The hot arid regions are concentrated mainly in Rajasthan, Gujarat, Haryana, Punjab and parts of the Deccan Plateau, while the cold arid regions are found in Ladakh, Jammu and Kashmir and Himachal Pradesh. These regions support millions of people and livestock despite receiving very low rainfall and experiencing extreme climatic conditions.

The hot arid regions are characterized by annual rainfall below 400 mm, often accompanied by high variability. Summer temperatures frequently exceed 45°C, while strong winds contribute to severe wind erosion. Sandy soils with low water-holding capacity, poor fertility and declining groundwater resources further limit agricultural productivity. Similarly, the cold arid regions of Ladakh face unique challenges such as extremely low precipitation, harsh winters, short growing seasons, poor soil fertility and limited irrigation water.

In both environments, farming remains highly vulnerable to climatic fluctuations.

Several factors contribute to the process of desertification. Climatic factors such as low rainfall, prolonged droughts, high temperatures and strong winds create natural stress on ecosystems. Human activities often accelerate the degradation process.

Overgrazing of rangelands, deforestation, excessive extraction of groundwater, cultivation of marginal lands, improper irrigation practices and unsustainable farming systems contribute significantly to land degradation. Growing population pressure and increasing demand for food, fodder, fuel and water further intensify the strain on natural resources.

The effects of desertification extend far beyond agriculture. Degraded land stores less water, supports fewer plant species and becomes increasingly vulnerable to erosion. Reduced vegetation cover diminishes carbon sequestration and accelerates climate change. Communities dependent on agriculture and livestock suffer declining incomes, food insecurity, migration and increased vulnerability to poverty. Women and marginalized groups are often disproportionately affected because they rely heavily on natural resources for their livelihoods. Climate change is expected to worsen these challenges.

Rising temperatures increase evapotranspiration and water demand while reducing soil moisture availability. Scientific projections suggest that many arid and semi-arid regions may experience more frequent droughts, longer dry spells and greater variability in rainfall patterns. In the Himalayan region, including Ladakh, glaciers are retreating at an alarming rate. Reduced snowfall and accelerated glacier melting threaten the long-term availability of water for irrigation, drinking and ecosystem services. Changes in rainfall intensity and distribution are also likely to affect cropping patterns and agricultural productivity.

Although the Green Revolution transformed India from a food-deficit nation into a food-secure country, it also created environmental concerns.





Mitigation Measures

Intensive use of groundwater, chemical fertilizers and pesticides, coupled with reduced crop diversity, has contributed to soil degradation and depletion of natural resources in many regions. The experience highlights the need for a transition towards sustainable and resource-conserving agricultural systems.

Combating desertification requires a combination of technological interventions, policy support and community participation. One of the most successful approaches in arid regions has been sand dune stabilization. The establishment of vegetative barriers, shelterbelts and windbreak plantations reduces wind speed and prevents soil erosion. Large-scale plantation programmes have successfully stabilized shifting sand dunes and improved the productivity of degraded lands.

Water conservation is another cornerstone of drought mitigation.

Traditional water-harvesting systems such as khadins, along with modern approaches like farm ponds, micro-catchments, ridge-furrow systems and deficit irrigation, help maximize the benefits of limited rainfall. Efficient irrigation technologies such as drip and sprinkler systems significantly improve water-use efficiency and allow farmers to produce more crops with less water.

The principle of **“Per Drop More Crop”** has become increasingly important in water-scarce regions.

Crop diversification also plays a vital role in building resilience. Traditional drought-tolerant crops such as pearl millet, clusterbean, green gram, moth bean and sesame require less water and perform better under adverse climatic conditions. Development of early-maturing crop varieties allows farmers to escape terminal drought and make efficient use of available moisture.

Reviving the cultivation of millets and other climate-resilient cereals can simultaneously improve nutritional security and climate resilience.

Integrated Farming Systems (IFS) offer another promising strategy for combating desertification. By integrating crops, livestock, trees, grasses and horticultural components, IFS reduces production risks and improves resource-use efficiency. These systems provide food, fodder, fuel, fruits and income throughout the year while enhancing soil fertility and ecological sustainability. Agroforestry, silvi-pasture, agri-horticulture and horti-pasture systems have demonstrated significant potential in improving livelihoods in dryland regions. Livestock remains the backbone of many dryland economies.

Therefore, strengthening fodder security is essential. Development of community grazing lands, fodder banks, improved forage varieties and silvi-pastoral systems can help address chronic fodder shortages. Introduction of high-yielding fodder crops such as fodder beet, Napier grass, oats, sainfoin and clover can substantially enhance feed availability and livestock productivity.

Protected cultivation technologies such as polyhouses, low tunnels and solar greenhouses are creating new opportunities in arid and cold-arid regions. These technologies enable year-round vegetable production, improve water-use efficiency and generate higher incomes. In Ladakh, solar greenhouses have proven particularly effective in ensuring vegetable availability during winter months while improving household nutrition and income.

The success of any desertification control programme ultimately depends on community participation. Local communities possess valuable traditional knowledge about land and water management. Community seed banks, fodder banks, watershed committees, capacity-building programmes and farmer-led resource management initiatives

The principle of “Per Drop More Crop” has become increasingly important in water-scarce regions.



strengthen local resilience and ensure long-term sustainability of interventions.

As climate change continues to challenge agricultural systems worldwide, the need to combat desertification and drought has never been greater.

Through scientific innovation, sustainable land management, efficient water use and collective action, it is possible to transform vulnerable drylands into resilient landscapes that continue to support people, livestock and ecosystems for generations to come.

CIRDAP

KhetiValah Knowledge Forum

Rural Development For Asia Pacific



Rural Heart Beat 21

Women and Youth:
Driving Agribusiness in Asia-Pacific



Dear Partners

The Asia-Pacific region is home to about 60% of the world's population, with youth aged 15-24 making up a significant share — over 700 million strong, or 56% of global youth. Women comprise roughly half the population, and in many countries, they form the backbone of agriculture, contributing 43% to 60% or more of the agricultural workforce, especially in South and Southeast Asia.

Agriculture remains vital across the region. While its share of GDP has declined to around 5-10% in many economies, it still employs about 30% of the workforce overall — much higher in developing nations. It underpins food security, rural livelihoods, and poverty reduction, with growth in the sector shifting toward high-value crops, fisheries, and livestock. Agribusiness plays a crucial role here — it bridges farm production with markets, processing, and retail, adding value, creating jobs, and boosting rural economies. In Asia-Pacific, agribusiness accounts for a growing share of agricultural GDP, with strong growth in food processing, supply chain logistics, and digital platforms.

Women have emerged as key innovators in the agribusiness ecosystem. To name few, In India, women-led farmer producer organizations have scaled dairy and spice processing, improving incomes by 30-50%. In Bangladesh, women entrepreneurs have built successful organic vegetable export businesses. In the Philippines, women-led cooperatives dominate coconut value chains, from processing to international marketing.

Youth are bringing tech and fresh ideas. In Vietnam, young entrepreneurs have developed mobile apps linking small farmers directly to buyers, cutting out middlemen.

In Indonesia, youth-led startups are revolutionizing precision farming and e-commerce for agricultural products. In Nepal, young innovators are building successful Agri-tourism and organic certification businesses.

Effective strategies for promoting women and youth include targeted training in digital skills and business management, access to finance through women- and youth-friendly credit schemes, mentorship programs pairing experienced farmers with young innovators, and policy support for land rights and market access. Creating youth agripreneur networks and women-led cooperatives has also proven highly effective.

CIRDAP Research Projects on Gender Responsive Budgeting in Nepal, Women and Youth Livelihood Promotion in Sri Lanka and Women in Silk value chain project in Iran and Publications such as 'Inspiring women of Asia and Pacific', '**100 IRD Models of Asia and Pacific**', Policy briefs are few works by CIRDAP on women and Youth in Rural Development.

Women and youth are not just participants but the future of agribusiness in Asia-Pacific. Empowering them through skills, capital, and enabling policies can drive inclusive growth, innovation, and sustainable Rural Development across the region.

With Warm Wishes

Dr. P. Chandra Shekara

Director General, CIRDAP

IRD Model Series – Raising Agrarian Communities:

The Philippines' ARBDSP Model for Inclusive Rural Development

The Agrarian Reform Beneficiaries Development and Sustainability Program (ARBDSP), a flagship initiative of the Department of Agrarian Reform (DAR) of the Philippines, stands as a compelling model of integrated rural development for the Asia Pacific region. Rooted in the Comprehensive Agrarian Reform Program (CARP), ARBDSP transforms agrarian reform beneficiaries (ARBs) into productive, self reliant, and resilient stakeholders through a comprehensive package of support services.

At the heart of the program is the Agrarian Reform Community (ARC) strategy, adopted in 1993, which clusters contiguous barangays to maximise resource allocation and development impact.

To date, 154 ARCs have been launched, 443 Agrarian Reform Beneficiary Organizations (ARBOs) have been formed with over 35,000 members, and support services have reached more than 49,000 ARBs nationwide.

The program operates through six integrated components: the ARCESS component delivers farm machinery, agri extension services, rural infrastructure, and credit access; the CLAAP project provides seed capital and livelihood training, targeting 36,000 beneficiaries with 30 per cent women participation; the PAHP initiative links ARBOs to institutional markets, generating over PHP 1.5 billion in gross sales between 2019 and early 2023; the Climate Resilient Farm Productivity Support addresses climate vulnerabilities through block farming and community seed banks; Social Infrastructure Building strengthens organisational capacities of ARBOs; and the BALAI Housing Program provides affordable, climate resilient housing integrated with livelihood activities.

The results have been substantial. Between July 2022 and May 2024, over 74,000 ARBs were capacitated with agricultural skills in the Davao Region alone, while 179 farm machineries were distributed across the Zamboanga Peninsula. The Senate approved a PHP 1.5 billion budget for ARBDSP in 2023, reflecting strong government commitment to the programme.

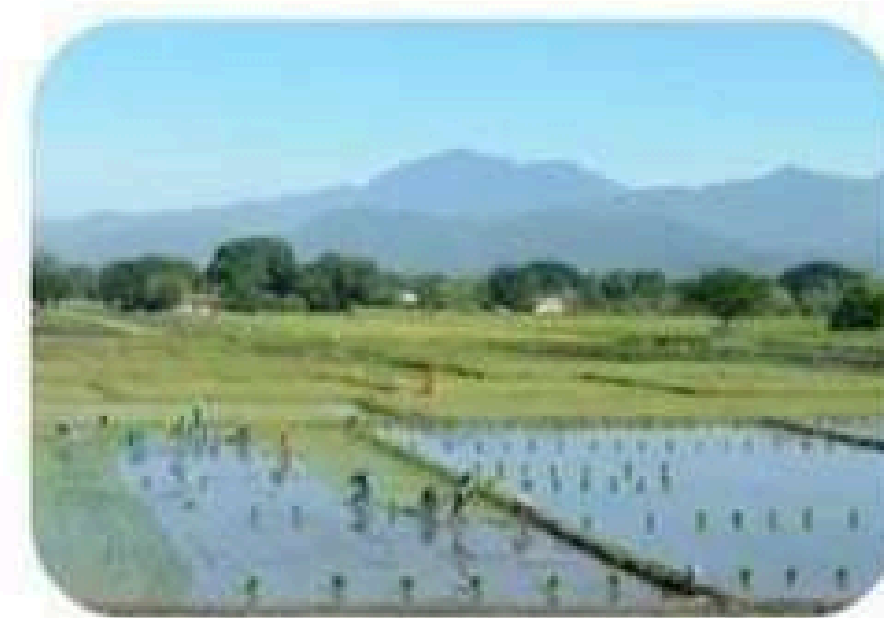
Our Strategic Focus



Agrarian Reform Beneficiaries



ARB Organizations



Agrarian Reform Communities

ARBDSP's participatory and multi agency approach, engaging partners such as the Land Bank of the Philippines, the Department of Trade and Industry, and civil society organisations, offers valuable lessons for countries across the Global South seeking scalable, community centered models for agrarian transformation and sustainable rural development.

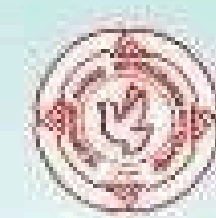
CIRDAP Highlights Bangladesh's Telemedicine Innovation

At DAKSHIN –Global South Workshop on Digital Health

DAKSHIN – Global South Centre of Excellence invited Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) to participate as a speaker in the international hybrid workshop titled "Effective Delivery of Health Services through Digital Tools in Global South", held on 6 May 2026. The workshop brought together policymakers, academic institutions, health experts, and implementing agencies from across the Global South to discuss innovative digital solutions for improving healthcare delivery.

The opening session featured welcome remarks by Prof. Sachin Kumar Sharma, Director General of the Research and Information System for Developing Countries (RIS), and special remarks from senior officials of India's NITI Aayog and the Ministry of Health and Family Welfare.

The workshop addressed pressing healthcare challenges faced by many developing countries, including geographically dispersed populations, shortages of healthcare professionals, inadequate infrastructure, and fragmented service delivery systems. Special emphasis was placed on the growing role of digital health technologies such as telemedicine, AI-supported diagnostics, mobile health applications, interoperable health information systems, and remote patient monitoring in strengthening healthcare accessibility and resilience.



RIS
Research and Information System
for Developing Countries
विमान्यता के माध्यम से अग्रणी एवं सुदृढ़ प्रगति

Workshop on Effective Delivery of Health Services through Digital Tools in Global South

Wednesday, 6 May 2026

10:30 am – 12:00 pm (IST)

Venue: G Parthasarathi Conference Hall, RIS, New Delhi
(Hybrid)

As part of its participation, CIRDAP nominated Pulse Healthcare Services, one of Bangladesh's leading telemedicine providers, to present the country's experience in digital healthcare innovation.

Pulse Healthcare Services is recognized as Bangladesh's first virtual telemedicine platform and application, offering video consultations with physicians nationwide through web-based and smart-device technologies.

The platform currently provides 24/7 healthcare support through a network of more than 1,800 doctors, including over 700 specialists. Its services include online doctor consultations, medicine delivery, doorstep pathology support, and affordable insurance solutions.

With over 50 B2B clients, the platform now reaches nearly one million people across Bangladesh.

A key highlight of the workshop was the participation of Mr. Shafayet Chowdhury as a panelist nominated by CIRDAP.

During the session on "Effective Delivery of Health Care Services Using Digital Tools – Experiences of Global South," Mr. Chowdhury shared Bangladesh's experience in expanding healthcare access through telemedicine and digital platforms. His presentation highlighted practical innovations and scalable service models that have improved healthcare accessibility, reduced travel and waiting time for patients, and strengthened healthcare support delivery across diverse regions of the country.

The workshop featured lead presentations and discussions from experts representing countries including India, Thailand, Fiji, and Bangladesh.

Discussions also explored opportunities for collaboration among Global South countries to strengthen digital health ecosystems and promote knowledge exchange on adaptable healthcare models.

CIRDAP Knowledge Series 57

| Webinar Highlights Food and Agriculture: From a Gender Lens

CIRDAP organized a knowledge series webinar titled "Food and Agriculture: From a Gender Lens" on 7 May 2026, featuring esteemed expert Dr. Yamuna Ghale from Nepal as the lead speaker.



CIRDAP KNOWLEDGE SERIES-57

Webinar on 'Food and Agriculture: From a Gender Lens'

Thursday, May 7, 2026
11:00 AM (Bangladesh Time)
10:45 AM (Nepal Time)
[Click here for zoom link](#)

Esteemed Speaker
Yamuna Ghale, PhD
CIRDAP Expert
Nepal

CIRDAP
Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP)

Organized by
CIRDAP
icd@cirdap.org

Venue: Virtual
Via Zoom Conference
www.cirdap.org

Coordinator
Ms. Hurain Jannat
communication_officer@cirdap.org

CIRDAP organized a knowledge series webinar titled "Food and Agriculture: From a Gender Lens" on 7 May 2026, featuring esteemed expert Dr. Yamuna Ghale from Nepal as the lead speaker.

Dr. Yamuna Ghale opened the session with a powerful message: Right to Food is Right to Life. She emphasized that every citizen has the right to enjoy food as per their age, health condition, and culture, and that this right is deeply interlinked with the agriculture system. She further highlighted that communities, the private sector, social institutions, and international agencies all have a shared responsibility to support every State in fulfilling its duties toward its citizens.

Dr. Ghale drew attention to the changing context of globalisation, where food and agriculture are increasingly being commodified as a function of trade.

She noted that the growing threat of climate change has brought far more challenges than opportunities for smallholder farmers and women led farming systems, particularly in developing countries.

The rising trend of male youth out migration has further feminized agriculture and food chain related tasks.

At the same time, women continue to face significant barriers including limited access to production resources, technological innovations, and mobility. They are also expected to manage productive, reproductive, community, and political roles simultaneously. In certain communities, socio cultural dimensions make girls and women even more vulnerable to food insecurity and malnutrition.

The session was chaired by H.E. Dr. P Chandra Shekara, Director General of CIRDAP, and brought together distinguished experts and stakeholders from across CIRDAP Member Countries to discuss innovative and people centered approaches to strengthening agricultural extension systems in the region.

The webinar can be accessed in CIRDAP YouTube Channel.

CIRDAP Knowledge Series 58

| Webinar on Action Lab for Transgender and Gender Variant Youth

The Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) hosted its 57th Knowledge Series Webinar on 21 May 2026

, spotlighting the recently completed project “Action Lab for Inclusion of Transgender and Gender Variant Youths in Mainstream Livelihood.”



Webinar on 'Action Lab for Inclusion of Transgender and Gender-Variant Youths in Mainstream Livelihood'

Thursday, May 21, 2026
11:00 AM (Bangladesh time)
10:30 AM (India time)
[Click here for zoom link](#)

Dr. Sandhya Gopakumaran
Esteemed Speaker
Director Training & Development
DDU-GKY Resource Cell
National Institute of Rural Development & Panchayati Raj (NIRDPR), Hyderabad, India.

CIRDAP
Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP)

Organized by: CIRDAP
Venue: Virtual
Via Zoom Conference
Coordinator: Ms. Huralin Jannat
communication_officer@cirdap.org

A Collaborative Initiative for Change

Jointly implemented by CIRDAP and NIRD&PR, the project introduced an Action Lab model designed to integrate transgender and gender variant youths into sustainable livelihood systems through skill development, enterprise support, and community engagement.

Action Labs in Action

Action Lab 1, led by the Sahodari Foundation in Tamil Nadu, trained 11 participants in coconut shell crafting and food processing, tapping into the region's abundant coconut produce.

Supported by CSR contributions and the Lion's Club, the group has since conducted practice workshops and an exposure visit to a successful coco craft unit in Kerala.

Action Lab 2, implemented in West Bengal through the organisation PLEQSUS, covered three streams: mushroom cultivation (now supplying 78 individual customers), spice grinding (reaching 123 families and 4 grocery stores), and apparel stitching in partnership with USHA International, which garnered national media coverage on NDTV.

Key Takeaways

The project demonstrated that evidence based, community driven approaches can meaningfully advance social and economic inclusion. Core lessons emphasised the need for ecosystem support for entrepreneurs, adaptive programme design, and the inseparable link between wellbeing and livelihood.

The way forward includes scaling these models, deepening market linkages, and expanding regional learning networks.

The full webinar is available on the CIRDAP YouTube Channel.

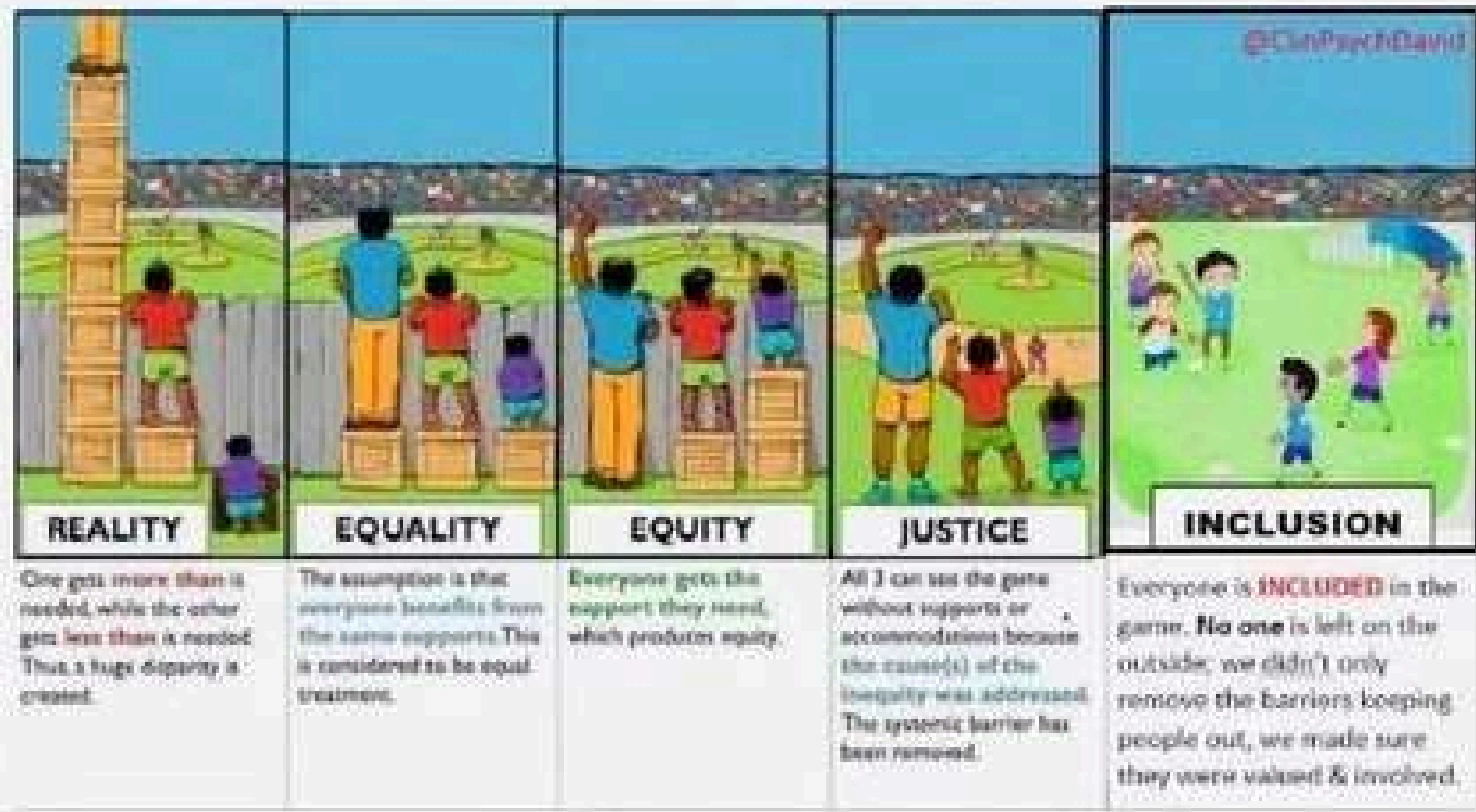


AGRI FACTS

- I-driven forecasting models are helping reduce food supply chain inefficiencies and post-harvest losses.
- Soil organic matter acts like a natural sponge, significantly improving water retention during drought conditions.
- Cover crops protect bare soil from erosion, improve soil fertility, and naturally suppress weeds while supporting beneficial soil microbes.
- Precision agriculture uses AI, drones, and sensors to optimize irrigation and fertilizer use, helping farmers increase yields while reducing water and input waste.



Sustainable Development is Inclusion



REALITY
One gets more than is needed, while the other gets less than is needed. Thus, a huge disparity is created.

EQUALITY
The assumption is that everyone benefits from the same supports. This is considered to be equal treatment.

EQUITY
Everyone gets the support they need, which produces equity.

JUSTICE
All I can see the game without supports or accommodations because the cause(s) of the inequality was addressed. The systemic barrier has been removed.

INCLUSION
Everyone is **INCLUDED** in the game. **No one** is left on the outside; we didn't only remove the barriers keeping people out, we made sure they were valued & involved.



Dr. Sandhya Gopakumaran



DR. YOGESH SUMTHANE

Let's Talk About Biomass Densification a Global Pathway for Power Generation

By

Dr. Yogesh Y. Sumthane

Assist. Professor cum Scientist Department of Forest Products College of Forestry Banda University of Agriculture and Technology Banda. Uttar Pradesh, India

Dr Ashish Pawar

Assistant Professor, CTAE, Agriculture University, Jodhpur, Rajasthan, India

Dr. Arjun Sanjay Paul, (Ph.D Renewable Energy Engineering)

Assistant Professor, Training & Placement Incharge ,Mahamaya College of Agricultural Engineering & Technology, ANDUAT, Kumarganj, Ayodhya, (U.P)



DR. ASHISH PAWAR



DR. ARJUN SANJAY PAUL,

ABOUT AUTHOR

Dr. Yogesh Y. Sumthane is a distinguished forestry scientist specializing in Wood Science and Technology, with expertise spanning research, education, innovation, and forest-based industries.

He holds a Ph.D. in Forestry and an MBA in Business Administration. Over his career, he has authored 7 books, 21 research papers, multiple book chapters, and more than 150 articles in journals and newspapers.

His contributions have earned several prestigious honors, including the Young Scientist Award, Best CEO Award, Prof. M.S. Swaminathan Award, and Best Scientist Award in Forestry (2025).

Dr. Sumthane holds multiple copyrights, patents, and a trademark, and has led projects supporting tribal livelihoods and sustainable forest products.

He regularly speaks at international conferences and serves as a member of leading forestry and agroforestry organizations.



Despite its availability
the biomass
is presently facing
several issues such as
low bulk density,
maximum moisture
content, irregular size
distribution,
transportation,
combustion, and
storage related issues

Beyond Fossil Fuels Shrinking the Problem

Globally, the increased energy demand has created a maximum dependency on fossil fuels, some mitigation invention is need to reduce the dependency on fossil fuels by adopting some renewable energy fuels. There are different renewable energy sources such as solar, wind, biomass, etc. but biomass is one of the promising resource of energy which is abundant available for power generation.

Biomass such as crop residues, organic waste, agro residue, forest waste, and animal manure represent reliable option for thermal power generation.

However, despite its availability the biomass is presently facing several issues such as low bulk density, maximum moisture content, irregular size distribution, transportation, combustion, and storage related issues.

Biomass densification has received attention globally to overcome the issues related to fossil fuels and enhance the biomass based power generation.

Additionally, crop residues like husks, bagasse, and straw, mainly indicates major biomass resources as globally crop residue availability estimated to be around as ~2.9 to 6.8 billion tonnes per year.

Among this, as per recent analysis report around ~1.44 billion tonnes of crop residues can be directly used for pellet generation. Also, the hundreds of millions of tonnes of wood residues are produced annually especially in East Asia like China. As per the Ministry of New and Renewable Energy (MNRE) Govt. of India report India have a 28 GW power generation potential from surplus biomass. Bagasse based cogeneration for power generation has 13.8 GW potential from sugar cane factories.

Some studies reported the biomass availability of 750 million tonnes/year considered as a surplus biomass for power generation.

Biomass Densification

Biomass densification is compressing the loose biomass and conversion into compact high density biomass solid fuel known as briquettes and pellets.

Raw biomass have a low bulk density in the range of 50-180 kg/m³, higher moisture content, irregular size and shape



and therefore it becomes difficult for transportation and storage. In densification process, the densified biomass have a higher density in the range of 600–1,200 kg/m³, also improved higher heating value, good combustion efficiency, results in reduced biomass handling and transportation cost.

There are three different biomass densification technologies such as piston press technology, screw press technology and die and roller type technology for briquette and pellets production.

In piston press machine, due to high pressure impact (100–150 MPa) of reciprocating piston on biomass, produces cylindrical briquettes having a higher density of 900-1200 kg/m³.

The piston press biomass densification technology is most flexible for biomass feedstock such as rice husk, sawdust, groundnut shell etc.

Screw press machine consists of conical screw which exerts pressure to produce briquettes, whereas die roller type machine is used for pellet production.



Fig. 1: Biomass pellets and its application for power generation (Sarkar et. al. 2023)

Current status of Biomass

Presently the world has hundreds of billions of tonnes biomass available in forests, as per the recent data to be around ~420 billion tonnes of biomass in forests worldwide, mostly concentrated in South America and other tropical region.

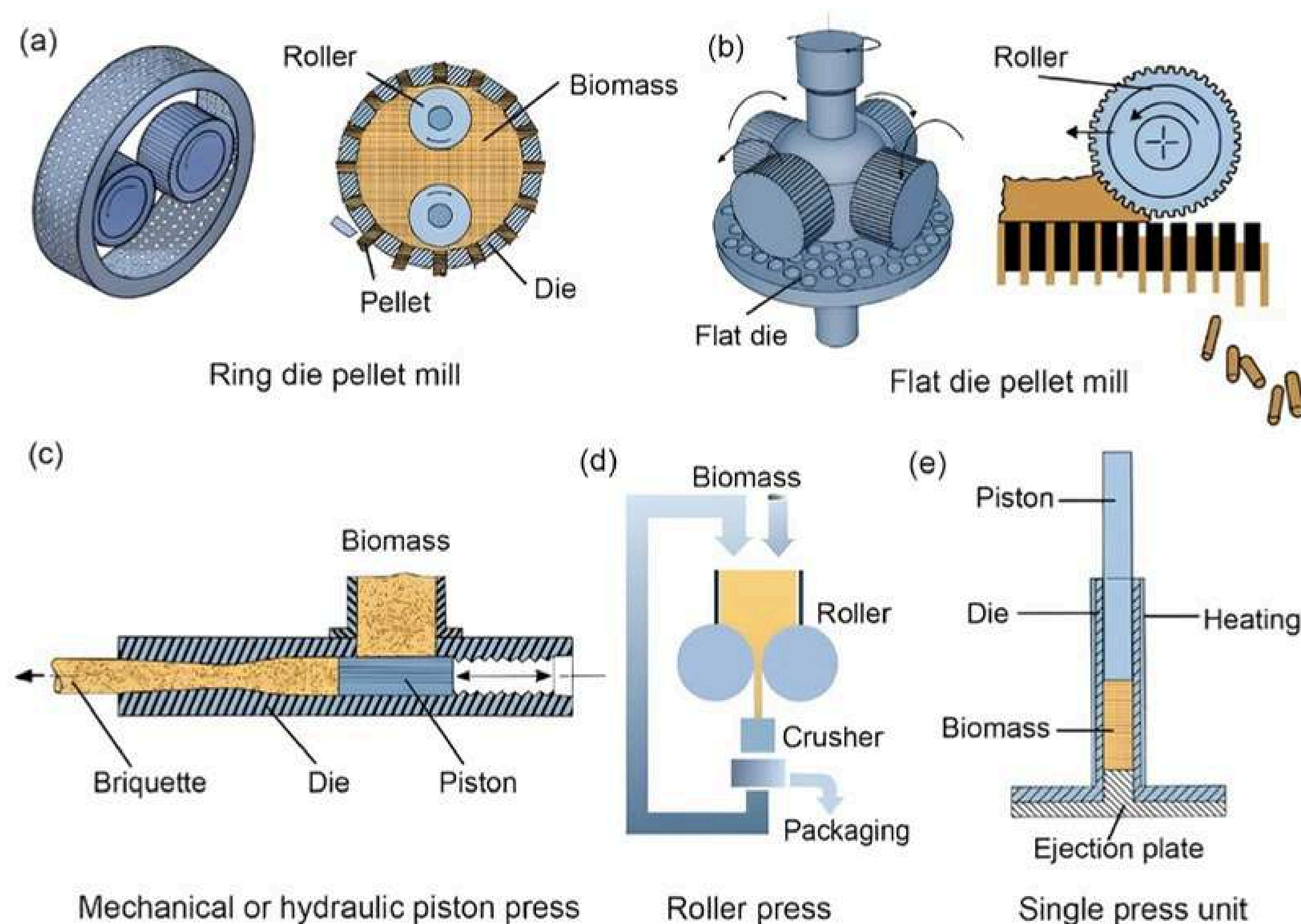


Fig. 2: Different biomass densification technologies (Gong et al. 2023)

Briquettes for power generation

Biomass briquettes having a higher density and calorific value, can be used for gasification process for thermal power generation.

When briquettes burns it generates heat and its responsible for steam generation, which rotates turbine and creates electricity.

Presently, In India National Thermal Power Plant coal as a fossil fuel is used in thermal power plant for electricity generation.

Therefore, the briquettes and pellets can be used as an alternate material to coal for power generation.

Additionally, the low sulphur and ash content in briquettes reduces air pollution and greenhouse gas emission.

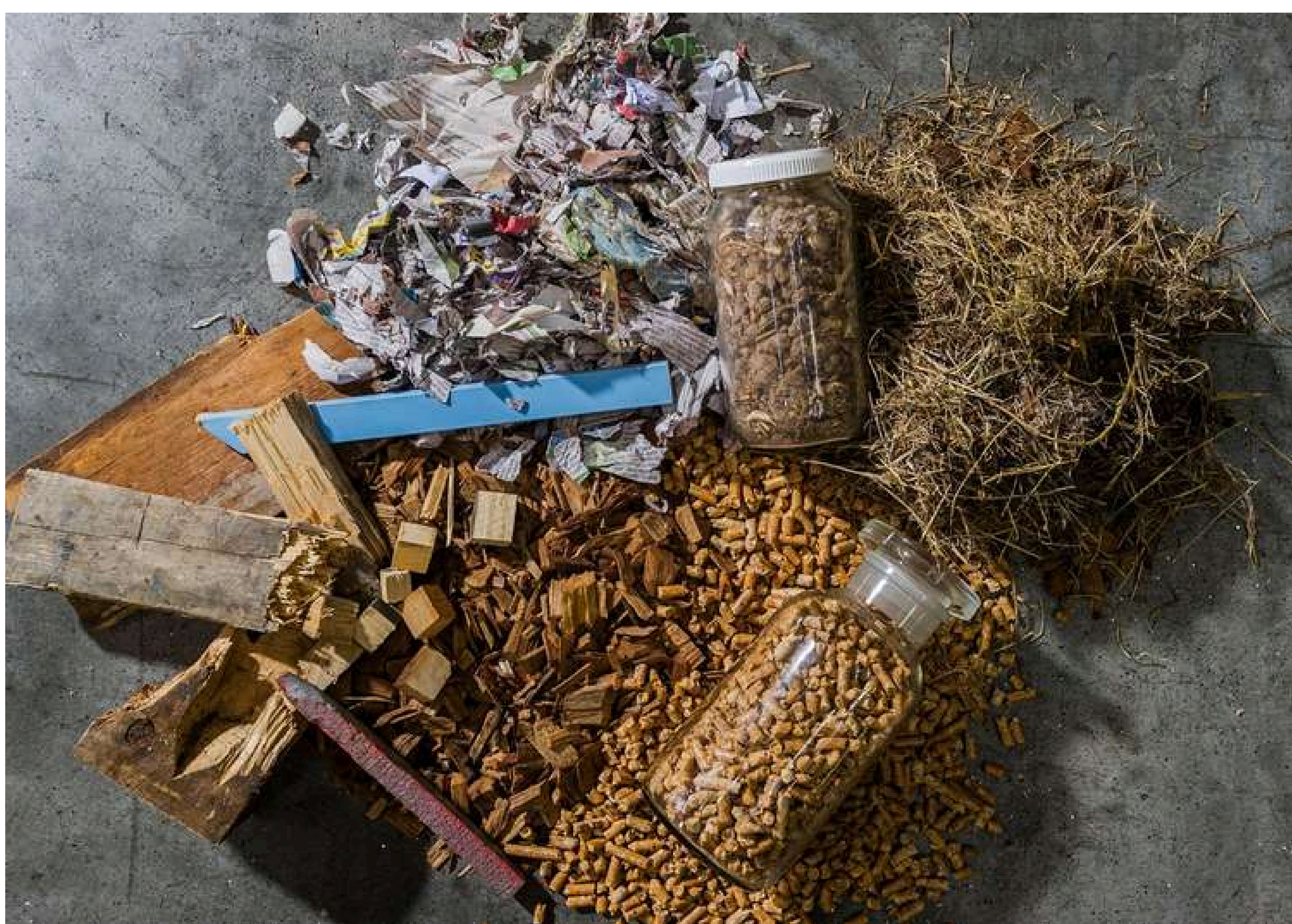
Therefore, biomass based pellets and briquettes has gained a significant attention for their important role in sustainable and decentralized thermal power generation.

Conclusion –

Biomass densification for pellet and briquettes production has gained vital attention for creation of pathway for enhancing power generation potential globally.

Conversion of low density biomass into high density, calorific value creates a promising option related to storage, transportation, and for improving the combustion efficiency.

Presently, boiler and gasifier possess some constraints while processing the raw biomass, therefore briquettes and pellets provides an alternate option in co-firing for power generation.



References

1. World Bioenergy Association's Global Bioenergy Statistics Report 2025 <https://www.worldbioenergy.org/global-bioenergy-statistics/> accessed on 11.02.2026
2. Ministry of New and Renewable Energy (MNRE) report on current biomass potential for power generation available on <https://mnre.gov.in/> accessed on 09.02.2026
3. Sarker, T. R., Nanda, S., Meda, V., & Dalai, A. K. (2023). Densification of waste biomass for manufacturing solid biofuel pellets: a review. Environmental Chemistry Letters, 21(1), 231-264.
4. Gong, C., Meng, X., Thygesen, L. G., Sheng, K., Pu, Y., Wang, L., ... & Thomsen, S. T. (2023). The significance of biomass densification in biological-based biorefineries: A critical review. Renewable and Sustainable Energy Reviews, 183, 113520.



GIRAS

Global Initiative for Regenerative Agriculture
& Soil Resilience

CALL FOR ARTICLES

GIRAS Global Magazine

Voices on Regenerative Agriculture & Living Soils



For **Soil**, For **Future Generations**

Researchers • Farmers • Institutions • Innovators

Submit: editorial@girasalliance.org

Soil • Systems • Regeneration • Resilience • Livelihoods

Let's Talk About

Pearl Millet (Nutricereal)

Demand of Present & Future for Healthy Life

By

Prof. (Dr.) B. Kumar

Prof. (Dr.) B. Kumar, **CEO, KrishiYashas & KhetiValah**
Vidhyalaya,

Advisor, **KhetiSamvad**

Dean Academics, Swami Vivekanand University,
Kokrajhar, Assam

Former Pro-Chancellor, Madhav University, Abu
Road, Rajasthan



PROF. (DR.) B. KUMAR



Global Burden of Disease Study by the **University of Washington**, malnutrition was the **top cause of death and disability in India in 2017**, followed by dietary risks including **poor diet choices**.

India with a score of **25.8** has a level of hunger that is **serious**.

Why need nutrition ?

India is the leading contributor of undernourished people in the world with around 14.37% of its population not receiving enough nutrition.

India has one of the worst rates of child malnutrition in the world, with one third of malnourished children globally being Indian. According to the 2017 data, India has one of the highest prevalence of anaemia 53.1 per cent of women (age 15-49 years) and 58.5 per cent of children under the age of five were anaemic.

Global Burden of Disease Study by the University of Washington, malnutrition was the top cause of death and disability in India in 2017, followed by dietary risks including poor diet choices. India with a score of 25.8 has a level of hunger that is serious. 37.3% of the children that are stunted live in rural areas, compared to 30.1% in urban areas.

In Global Hunger Index 2025, India ranked 102 out of 123 countries, indicating a serious level of hunger. Between **National Family Health Survey** (NFHS 4 and NFHS 5), children under the age of five who are moderately underweight decreased from 35.8% to 32.1, stunted decreased from 38.4% to 35.5 %, wasted decreased from 21% to 19.3%, and severely wasted children increased slightly from 7.5% to 7.7 %.

Beginning from domestication to genome sequencing the research channel developed many biofortified varieties for Fe and Zn which helps to overcome malnutrition problem but not at desired level.

Due to the effort of research fraternity for nutrition the world celebrated “**International Year of Millets 2023**”.

Nutritional values of Millets:

Pearl millet contains about 92.5% dry matter, 2.1% ash, 2.8% crude fiber, 7.8% crude fat, 13.6% crude protein, and 63.2% starch (Ali et al., 2003; Yadav et al., 2016). Millets are rich in phenolic compounds, especially ferulic acid and catechins that binds heavy metals in bloodstream to prevent metal poisoning and act as antioxidants to protect your body from harmful oxidative stress (Wongmekiat et. al., 2018).

They are also gluten-free, so people with celiac disease or gluten sensitivities can enjoy them . They also contain similar



measures of protein, nutrients, iron, calcium, fibre, high density lipoprotein (HDL), cancer prevention agents and so on hence called Nutrigains.

Its starches have amylose content ranging 20-21.5% and have a higher swelling power and solubility than other starches (Lestienne et al., 2007).

They have subsequent nutritional values per 100 g flour – energy 360 calories (Yadav et al., 2016), moisture 12 g, protein 12 g, fat 5 g, mineral 2 g (two highly precise tools namely Atomic Absorption Spectrometry (AAS) and Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) are widely used to analyze grain minerals (Kumar et al., 2016; Pujar et al., 2020), fibre 1 g, carbohydrate 67 g, calcium 42 mg, phosphorus 242 mg, and iron 8 (Annor et al., 2017), vitamins such as riboflavin, niacin, and thiamine and minerals (2.3 mg/100 g) such as potassium, phosphorous, magnesium, iron, zinc, copper, and manganese (Weckwerth et al., 2020).

Economic Importance of Millet:

India is the largest millets producing country in the world. “**The Future Super Food for India**” stated by ASSOCHAM 2022, and termed as “**Nutricereal**” by AICRPOM because of its excellent nutritional profile, as compared with other cereals (Jukanti et al., 2016).

In order to produce biofuel with minimal carbon emissions, India partnered with the US to Advance Clean Energy (PACE) in 2011. Millets received some attention in 2012 when the then government crafted a policy called Initiative for Nutritional Security through Intensive Millet Production. In 2018, millets were declared “**Nutri Cereals**” and added to the national food

security mission, and Rs 300 crore was earmarked for its development. In 2018 India proposed to the UN to declare 2023 as the International Year of Millets.

Accounting for nearly 75% of the total area under millets only 13% of total availability is used as animal feed compared to 45% of total sorghum availability and 62% of total maize availability (Parthasarathy & Basavaraj 2015), and its straw is an important feed resource, particularly in India and parts of Sub-Saharan Africa.

Because of all these qualities that they so amazingly combine, millets only be called Miracle Grains/Nutria-Cereals (Gowri, & Shivakumar 2020).

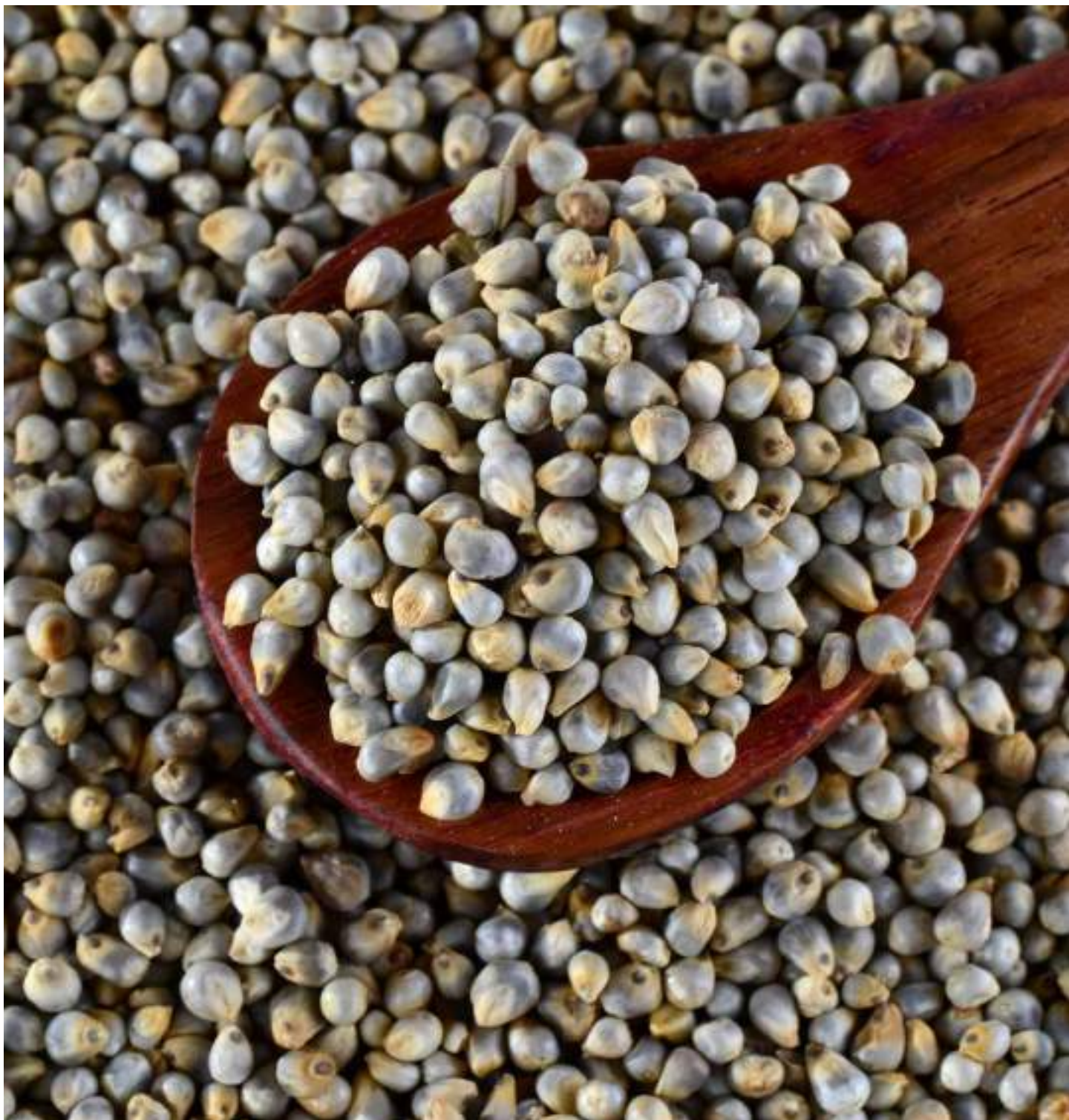
According to APEDA, although accounting for approximately 40% of the world's millet production, India exported about 1% of its millet crop in 2021–2022 for \$64.28 million, or more than \$59.75 million in 2020–21.



Leading the fight to increase exports is APEDA. By 2025, it plans to export \$100 million worth of goods. "APEDA will promote processed and value-added millets worldwide, focusing on the top 50 countries, importers, exporters, and supply sources that connect production bases."

According to the Crop Production Statistics and Information System and the APEDA Report 2023, Humble Human Being and Ecofan Reported by Business Today on March 3, Bill Gates and Smriti Irani prepared millet khichdi.

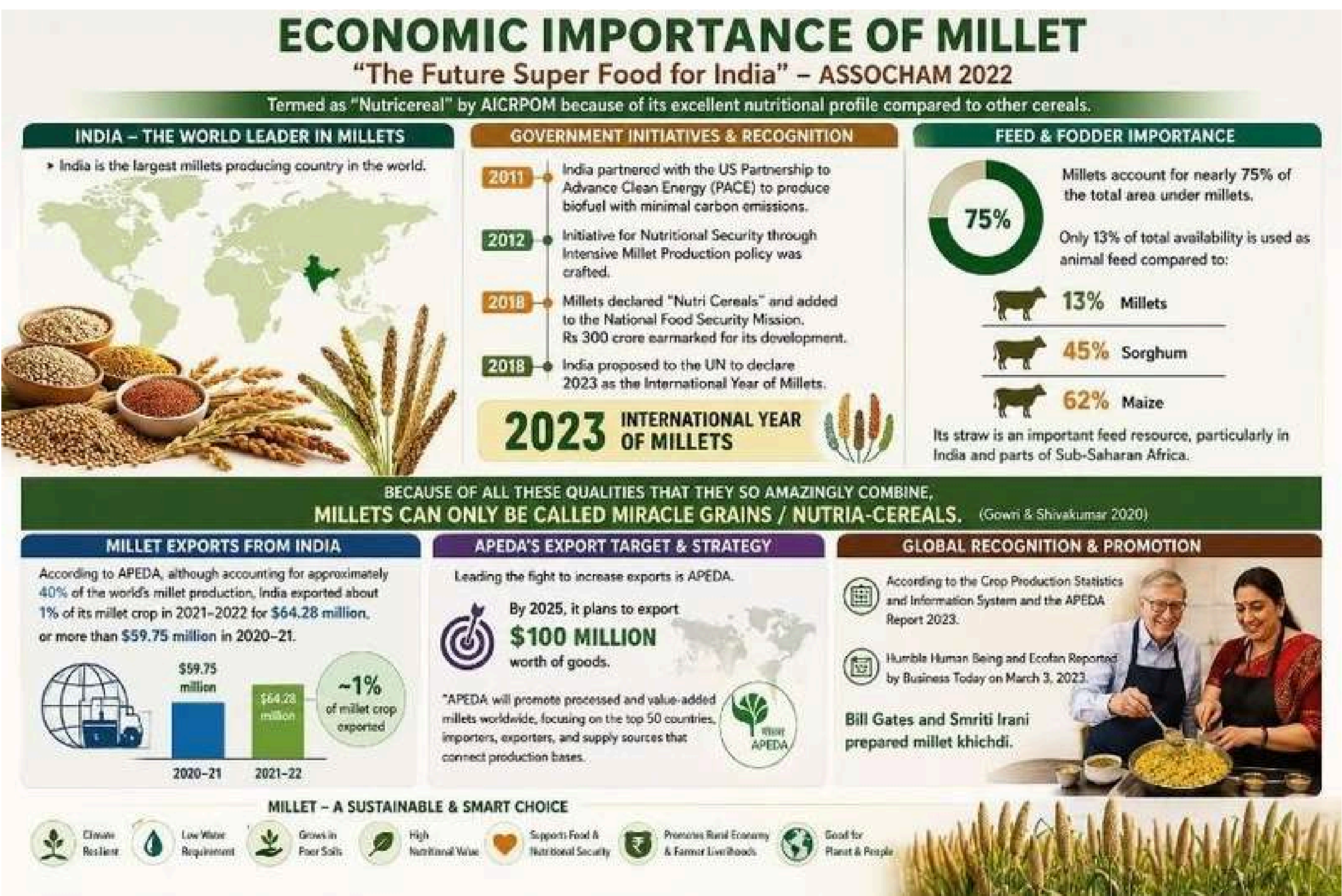
Pearl Millet's Broad Biomedical Applications:



One of the greatest options is pearl millet, which is regarded as the nutritional powerhouse and has countless health advantages (Vanisha et al., 2011).

Men and women between the ages of 25 and 50 should consume 800 mg of calcium and potassium per day, 280–350 mg of magnesium, 500 mg of sodium, 2000 mg of potassium, 750 mg of chloride, 10–15 mg of iron and zinc, 1.5–3.0 mg of copper, 55–70 µg of selenium, 150 µg of iron, 2.5–5 µg of manganese, 75–250 µg of mo, 50–200 µg of Cr, and 1.5–4.0 mg of fluorine (Al-Fartusie and Mohssan 2017; FAO/WHO 2000).

Both nutrients and non-nutrients, like phenols, are abundant in pearl millet. Due to their gluten-free nature, pearl millet can be used to make a wide range of foods and beverages that are suitable for people with celiac disease (Taylor et al., 2006; Taylor and Emmambux, 2008).



Strong antioxidants like lignin and phytonutrients found in millet help prevent heart-related illnesses. Anti-cancer quality suppress the growth of tumors.

Rich in tannins, phytate, and phenolic acids, which function as "anti nutrients" (Thompson, 1993).

But it's been proven that these antinutrients lower the chance of breast and colon cancer in animals (Graf and Eaton, 1990).

Rao et al. (2018), elaborated that the levels of unsaturated fatty acids, folate, copper, zinc, iron, magnesium, and calcium in addition to vitamin B complex.

Additionally, apigenin, flavonoids, lignin, and myricetin, which have anti-fungal and anti-ulcerative properties, help prevent breast cancer and cardiovascular diseases in addition to being present in pearl millets



The recommended daily allowance (RDA) for iron in adult men (17 mg) and for non-pregnant and non-lactating (NPNL) women (21 mg) in India can be met by consuming 200g of the pearl millet variety Dhanshakti (70 mg/kg Fe and 40 mg/kg Zn).

The amylase activity of pearl millet is ten times higher than that of wheat. The main sugars in the flour are maltose and D-ribose, with low amounts of fructose and glucose (Oshodi et al 1999).

Jenkins introduced the idea of the glycaemic index (GI), which is a physiological basis for classifying foods high in carbohydrates based on the blood glucose response they cause upon ingestion (Jenkins et. al. 1981).

According to reports, compared to Varagu (Plaspalum scorbiculatum) alone, pearl millet (Penniseteum typhoideum) has the lowest GI (55). Foods low in glycemic index can help manage maturity-onset diabetes by improving blood pressure, metabolic control and plasma low density lipoprotein cholesterol levels because of a less pronounced insulin response (Asp, 1996).

Enhancement of Pearl Millet Value:

The government has dubbed millets Shree Anna, which roughly translates to "the blessed food," as part of its creative promotion of the grain. It makes sense that the Kashi Vishwanath temple in Varanasi, Modi's home parliamentary constituency, has chosen to serve millets-based "prasad" to worshippers. 'Sri Anna prasad' will be the new name for the temple's 'laddu prasad.' Sri Anna is causing a stir everywhere; at the G20 meetings that India is hosted Shree Anna dishes were served, and Bill Gates cooked a Shree Anna khichdi with Union Minister Smriti Irani.

Gauls and the Romans were eating millets as porridges in place of rice during the Middle Ages, millets may have been the first cereal ever used for food (Ambati and Sucharitha 2019).

In comparison to branded noodles, noodles made from millet blend composite flour have a much lower glycemic index, but they also take longer to cook (Vijayakumar et al., 2010).

Pasta made from pearl millet flour has excellent protein, iron, zinc, texture, and color with very little cooking loss and ash content.

Teff flour is also used to create gluten-free tagliatelle, a type of pasta that has a very low GI for those with celiac disease (Giuberti et al., 2016).

Other value-added products made from pearl millet include flakes, drinks, pops, and non-alcoholic beverages.

That is, however, only a portion of the millet promotion Bill Gates preparing a Shree Anna khichdi with Union Minister Smriti Irani to Shree Anna dishes being served at the G20 meetings India is hosting, Sri Anna is creating waves everywhere (The Economic Times, 2023).

The song "Abundance in Millets," which was created in association with Prime Minister Narendra Modi, is a 2024 Grammy Award nominee for Best Global Music Performance.

To highlight the advantages of millets and their potential to reduce world hunger, (Nov 11, 2023 The Economics Times).



MILLET – SHREE ANNA: THE BLESSED FOOD

From Temples to Global Tables – Sri Anna is Creating Waves Everywhere

SHREE ANNA – THE BLESSED FOOD

- The government has dubbed millets Shree Anna, which roughly translates to "the blessed food".
- Kashi Vishwanath Temple, Varanasi now serves millets-based "prasad" to devotees.
- The temple's 'laddu prasad' will be now known as Sri Anna prasad.

SHREE ANNA ON GLOBAL STAGE

Shree Anna dishes are served at the G20 meetings hosted by India.

Bill Gates cooks a Shree Anna khichdi with Union Minister Smriti Irani.

HISTORICAL SIGNIFICANCE

- Paul and the Romans were eating millets as porridges in place of rice during the Middle Ages.
- Millets may have been the first cereal ever used for food.

VALUE-ADDED MILLET PRODUCTS & HEALTH BENEFITS

MILLET NOODLES

- Noodles made from millet blend composite flour have a much lower glycemic index compared to branded noodles.
- They also take longer to cook.

MILLET PASTA

- Pasta made from pearl millet flour has excellent protein, iron, zinc, texture, and color.
- Very little cooking loss and ash content.

GLUTEN-FREE TAGLIATELLE

- Teff flour is used to create gluten-free tagliatelle (a type of pasta).
- It has a very low GI, suitable for those with celiac disease.

OTHER VALUE-ADDED PRODUCTS

- Pearl millet is also used to make:
 - Flakes
 - Drinks
 - Pops
 - Non-alcoholic beverages

WAVES OF PROMOTION

- From Bill Gates preparing a Shree Anna khichdi with Smriti Irani...
- To Shree Anna dishes being served at the G20 meetings...
- Sri Anna is creating waves everywhere! (The Economic Times, 2023)

GLOBAL RECOGNITION – ABUNDANCE IN MILLETS

- The song "Abundance in Millets", created in association with Prime Minister Narendra Modi, is a 2024 Grammy Award nominee for Best Global Music Performance.
- To highlight the advantages of millets and their potential to reduce world hunger. (Nov 11, 2023 The Economic Times)

WHY CHOOSE SHREE ANNA?

Nutritious & Gluten-Free

Low Glycemic Index

Sustainable & Climate-Resilient

Good for People & Planet



Let's Talk About

The Karanj Tree:

A Hidden Gem of India and Beyond

By

Dr. Shailesh Acharya

Assistant Professor, Department of Soil Science Sahakarmaharshi Bhausaheb Thorat College of Agriculture, Maharashtra, IN



DR. SHAILESH MARUTI ACHARYA

ABOUT AUTHOR

Dr. Shailesh Maruti Acharya is an Assistant Professor in the Department of Soil Science at Sahakarmaharshi Bhausaheb Thorat College of Agriculture, Amrutnagar, Sangamner, Maharashtra.

He obtained his B.Sc. (Agriculture) and M.Sc. (Soil Science) from Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, and Ph.D. from Mahatma Phule Krishi Vidyapeeth, Rahuri.

He has qualified ICAR-ASRB NET in Soil Science. With more than 15 years of teaching and research experience, his expertise lies in soil fertility and plant nutrition.

He has published over 15 research papers in NAAS-rated journals, authored book chapters, and is a recipient of the Prof. Ratan Lal Award in Soil Science.



The global population is projected to approach **10 billion by mid-century**, while climate change is altering rainfall patterns, increasing temperatures and intensifying droughts and floods.

Agriculture lies at the center of **this crisis**.

The Indian Beech- Karanj Tree

If you've ever walked through rural parts of India or along roadsides in tropical regions, you might have passed by the Karanj tree without giving it a second thought. Known scientifically as *Pongamia pinnata* (or sometimes *Millettia pinnata*), this sturdy, medium-sized tree goes by many local names like Karanj, Pongam, or Indian Beech.

It's not flashy like some flowering ornamentals, but don't let that fool you. This tree is a quiet powerhouse packed with practical uses for health, farming, environment, and even industry.

Why People Have Relied on Karanj for Generations

In traditional Ayurvedic and folk medicine, the Karanj tree has been a go-to remedy for hundreds of years. Almost every part — leaves, bark, seeds, roots, and the oil from the seeds — gets used in one way or another.

The oil, often called Karanj or Pongam oil, is probably the most famous product. People apply it for all kinds of skin troubles: eczema, ringworm, itching, boils, ulcers, and even conditions like psoriasis or herpes.

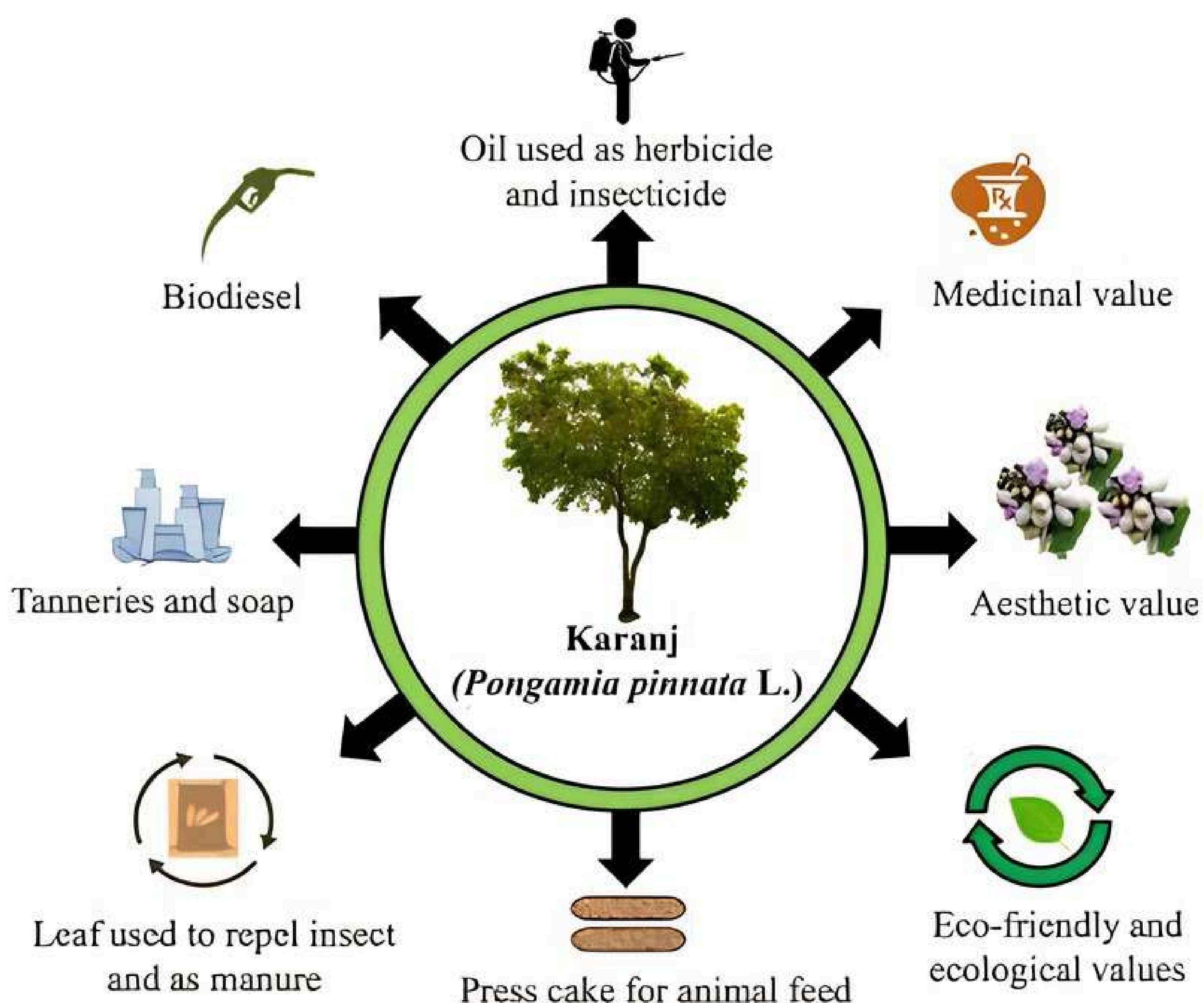
The leaves and bark paste work similarly when applied externally. Many users swear by its ability to reduce inflammation and fight infections.

Inside the body, preparations from the leaves or bark are used as a digestive aid. They can help with constipation, loss of appetite, piles, and intestinal worms. Some traditional healers also turn to it for joint pain, rheumatism, cough, bronchitis, and liver complaints.

The roots have been used for gum health and cleaning teeth in some regions. Modern lab studies have started confirming what locals knew all along — the tree contains compounds like karanjin and pongamol that show anti-inflammatory, antimicrobial, and antioxidant activity.



For hair, a paste or oil treatment is sometimes used to promote growth, control dandruff, and improve overall scalp health. It's not a miracle cure, but in rural households it's a trusted home remedy passed down through generations. Important caution: While it's been used safely for generations in traditional ways, it's always smart to consult a knowledgeable Ayurvedic practitioner or doctor before taking concentrated extracts or oil internally, especially if you're pregnant or have health issues.



Green Benefits That Go Beyond Medicine

One of the qualities that makes the Karanj tree special is its ability to directly improve the land. As a legume tree, it fixes nitrogen in the soil through its roots.

This naturally improves soil fertility, which is a big deal for farmers working with poor or degraded land.

The tree grows fast, tolerates drought once established, and handles salty and marginal soils where other plants struggle to establish. Its dense canopy gives good shade, reduces soil erosion, and slows down water evaporation. Farmers often plant it along field boundaries, roads, or canals.

It also supports local wildlife — flowers attract bees for honey, and the overall plant canopy provides shelter for birds and insects.

Because cattle usually don't eat its leaves or pods much, it's easy to establish in community greening or reforestation projects. In many places it's seen as a "sukha chain" tree — one that brings stability and usefulness without demanding too much care.

From Biofuel to Daily Life

The seeds contain a decent amount of oil — around 30% in many cases. This oil isn't typically eaten, but it's excellent for making biodiesel. Researchers and rural development programs have promoted Karanj as a renewable fuel source that can help reduce dependence on imported diesel besides providing local income.

The leftover seed cake after oil extraction makes a good organic fertilizer and natural pesticide.

In villages, the oil has long been used in lamps to light homes and keep mosquitoes away.

The wood serves as fuel, and the tree itself provides small timber for various needs. Leaves can be turned into a simple organic spray to protect crops from pests.

Easy to Grow & Worth Planting

Karanj isn't difficult to grow.

You can grow it from seeds fairly easily. It likes full sun and well-drained soil but can adapt to different conditions.

Once it gets established, it needs little attention. Many people plant it in home gardens for shade, in farms for soil health, or in wastelands for environmental restoration.

A Tree Worth Knowing

In today's world of climate challenges and interest in natural solutions, the Karanj tree deserves more attention.

It provides medicine, improves soil, supports biodiversity, and offers economic possibilities through oil and related products. It's not rare, but it's underappreciated.

Next time you spot one, take a moment to appreciate it.

Whether you're a gardener, a farmer, someone interested in herbal remedies, or just someone who cares about sustainable living, the Karanj tree is a friend worth having around. Simple, tough, and genuinely useful — that's the real beauty of this remarkable tree.





KhetiValah's



Wear the Soil. Live the Roots

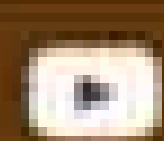
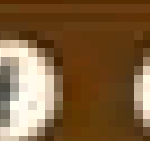
Launching web &
mobile application
Feb 2026
Inviting state wise
partners

KhetiSwags
Farm. Fashion. Future.

Our vision

Celebrating India's rural identity through fashion
Empowering farmers
Connecting rural and urban hearts



     / Khetiswags |  www.khetiswags.com |  +91 9030302139

#Khetiswags #Khetivalah

GLOBAL AGRI DEVELOPMENTS

June 2026

India's Kharif 2026 Season Monsoon Revival Brings Hope, Yet Regional Challenges Persist

Field Focus

India's 2026 Kharif season has gathered momentum as monsoon activity strengthens across much of the country. Improved rainfall has accelerated sowing in several states, although uneven precipitation continues to influence crop prospects and regional agricultural performance.

Improved monsoon activity during early July has accelerated Kharif sowing across large parts of India, raising expectations for a productive cropping season.

Rice, maize, pulses, soybean, cotton and oilseeds are witnessing steady planting progress where rainfall has been favourable. However, uneven rainfall distribution in parts of western and southern India continues to delay field operations, highlighting the importance of sustained monsoon activity during the coming weeks.

The Kharif season remains central to India's food security and rural economy, contributing a significant share of annual foodgrain production.

Government agencies and agricultural institutions are supporting farmers through weather advisories, quality seed distribution, climate-resilient crop varieties and efficient water management initiatives to minimise production risks arising from variable weather conditions. Agricultural experts indicate that rainfall distribution during July and August

will be more critical than seasonal rainfall totals in determining crop establishment and yield potential.

A favourable outcome would improve foodgrain availability, strengthen rural incomes and support stable agricultural markets, while continued weather variability may require adaptive farm management and targeted policy support.

KhetiValah Insight

The early trajectory of Kharif 2026 suggests cautious optimism rather than complete certainty. While monsoon conditions have improved, regional rainfall variability continues to influence sowing decisions, input demand and crop establishment.

The season's performance will also affect food prices, irrigation demand, farm mechanisation, warehousing and post-harvest logistics.

The coming weeks will therefore be decisive in shaping India's agricultural outlook for the remainder of 2026.

Agri Metrics (As of 10 July 2026)

- Around 350.85 lakh hectares of Kharif crops were sown across India, compared to 442.80 lakh hectares during the corresponding period last year.
- The overall southwest monsoon rainfall deficit had narrowed to around 15%, reflecting improved rainfall during early July, although regional

disparities remained.

- The number of rainfall-deficient districts reduced from 262 to 178, indicating gradual improvement in monsoon coverage.
- More than 50% of India's net sown area continues to depend primarily on monsoon rainfall.
- Contingency planning has been activated in 315 vulnerable districts, focusing on climate advisories, seed availability and water conservation measures.

Agricultural Analytics

Indicator	Current Scenario	Likely Impact
Southwest Monsoon	Rainfall activity strengthened during early July	Improved sowing progress and soil moisture
Rice	Planting advancing in favourable rainfall regions	Positive outlook for foodgrain production
Pulses	Acreage expanding steadily	Improved domestic availability
Oilseeds	Sowing progressing in key producing states	Better edible oil production prospects
Cotton	Mixed progress due to uneven rainfall	Regional yield variations likely
Reservoir Storage	Water levels improving in several major reservoirs	Better irrigation support during crop growth
Farm Inputs	Seasonal demand increasing	Higher demand for seeds, fertilisers and crop protection products
Mechanisation	Field operations gaining pace	Increased demand for tractors and harvesting equipment

Source

Prepared, using official information and datasets from the Ministry of Agriculture & Farmers Welfare, Government of India, India Meteorological Department (IMD), Indian Council of Agricultural Research (ICAR), Central Water Commission (CWC), and other recognised international agricultural organisations.

GLOBAL AGRI DEVELOPMENTS



Gene Editing Accelerates Climate-Resilient Crop Development



Field Focus

Gene-editing technologies are gaining momentum as a powerful tool for developing crops that can better withstand climate-related challenges.

Using precision techniques such as CRISPR, researchers are accelerating the development of crop varieties with improved drought tolerance, disease resistance, heat resilience and nutrient-use efficiency. Unlike conventional genetic modification, gene editing enables targeted changes within a plant's existing genome, allowing breeders to introduce desirable traits more efficiently while reducing the time required for crop improvement.

Research programmes across Asia, Africa and other regions are applying these technologies to key food crops including rice, wheat, maize, millet and legumes. Recent collaborations between international research centres are also combining predictive breeding with advanced

genomics to fast-track climate-resilient varieties suited to dryland farming systems.

As climate variability intensifies, gene editing is increasingly being recognised as an important complement to conventional plant breeding in strengthening global food security.

Gene editing has the potential to shorten breeding cycles while improving the precision of crop improvement programmes. Its long-term contribution to sustainable agriculture will depend on science-based regulation, public confidence, equitable access to innovation and continued investment in agricultural research.

Data Snapshot

- CRISPR remains the most widely adopted gene-editing platform for crop research worldwide.

- CGIAR centres are expanding predictive breeding programmes across India, Kenya, Ethiopia and Tanzania to accelerate climate-resilient crop development.
- Current research priorities include rice, wheat, maize, millet and legumes adapted to drought and heat stress.

Source

FAO, CGIAR, ICRISAT, CIMMYT, ISAAA.

AGRI FACTS

- Agricultural diversification into high-value horticulture, medicinal plants, and niche crops is increasingly shaping rural income systems.
- Circular agriculture models promote resource reuse, nutrient recycling, and reduced waste, improving long-term farm sustainability.
- Women farmers often invest a larger share of farm income into family nutrition, education, and household well-being.



GLOBAL AGRI DEVELOPMENTS



Biodiversity Takes Centre Stage in Sustainable Agriculture



Field Focus

Biodiversity is gaining renewed attention as governments, researchers and international organisations strengthen the efforts to integrate nature conservation into agricultural development.

Healthy agricultural ecosystems depend on biodiversity to support pollination, natural pest control, soil fertility and climate resilience, making it an essential component of sustainable food production.

In preparation for global discussions on agriculture and food systems during 2026, international initiatives are advancing guidelines and scientific assessments to promote the conservation and sustainable use of biodiversity for food and agriculture. Current efforts focus on protecting plant genetic resources, improving ecosystem services and encouraging farming practices that enhance productivity while reducing environmental pressures.

These developments reflect a growing recognition that resilient food systems rely

on both agricultural innovation and healthy ecosystems.

Data Snapshot

- The 30th Session of the FAO Committee on Agriculture (COAG) will convene from July 20–24, 2026, in Rome.
- Key agenda areas include biodiversity conservation, climate resilience, bioeconomy and sustainable land and water management.
- FAO is preparing the Second State of the World's Biodiversity for Food and Agriculture assessment to guide future policy and action.

Source

FAO, CGIAR, Commission on Genetic Resources for Food and Agriculture.

AGRI FACTS

Global warming is increasing the spread of crop pests and invasive species into new geographic regions, affecting biosecurity systems.

Studies show that integrated pest management (IPM) can significantly reduce pesticide use while maintaining crop productivity.

Controlled-release fertilizers improve nutrient-use efficiency by synchronizing nutrient release with crop demand.

Healthy soils can store significant amounts of carbon, helping mitigate climate change while improving long-term agricultural productivity.

Pollinators such as bees, butterflies, and other insects contribute to the production of nearly 75% of the world's leading food crops through pollination.



GLOBAL AGRI DEVELOPMENTS



Carbon Farming Gains Momentum as Soil Becomes a Climate Solution



Field Focus

Carbon farming is gaining global attention as governments, research institutions and agricultural organisations strengthen efforts to improve soil health while contributing to climate action. Farming practices such as cover cropping, reduced tillage, agroforestry, crop diversification and improved grazing management are increasingly being promoted to enhance soil organic carbon, improve water retention and build resilient production systems.

Recent policy and research developments are providing greater momentum for carbon farming.

The European Commission has adopted certification methodologies under its Carbon Removals and Carbon Farming Regulation, establishing a transparent framework for recognising verified carbon farming activities. At the same time, international research programmes continue to evaluate how soil carbon management can support productive agriculture while

while restoring degraded landscapes and strengthening ecosystem services.

Carbon farming is evolving beyond climate mitigation to become a practical strategy for improving long-term farm resilience.

Healthy soils with higher organic carbon can enhance nutrient cycling, improve water-holding capacity and reduce vulnerability to drought, making carbon management an increasingly important component of sustainable agriculture.

Data Snapshot

- The European Commission adopted three certification methodologies for carbon farming on 10 July 2026.
- The framework covers agriculture and agroforestry, peatland restoration, and afforestation.

- Research programmes continue to assess soil carbon sequestration across tropical and temperate farming systems.

Source

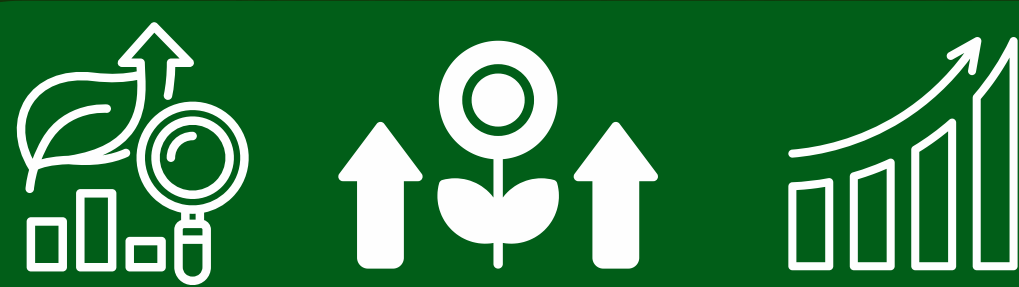
European Commission, FAO, CGIAR Alliance of Bioversity International and CIAT.

AGRI FACTS

- Blue foods (fish, seaweed, shellfish) are increasingly recognized for their role in nutrition security and lower environmental footprints.
- Heat stress can reduce pollen viability in crops, directly affecting grain formation and fruit yields.
- Digital twins in agriculture are emerging to simulate farm conditions virtually, helping predict crop performance, irrigation needs, and risks.



GLOBAL AGRI DEVELOPMENTS



Smart Irrigation Technologies Transform Agricultural Water Management



Field Focus

Digital technologies are reshaping agricultural water management as countries accelerate the adoption of smart irrigation systems to improve water-use efficiency and strengthen climate resilience.

Artificial intelligence, Internet of Things (IoT) sensors, satellite imagery and real-time weather data are increasingly being integrated into irrigation management, enabling farmers to apply water more precisely, according to crop and soil requirements.

The global focus on smart farming has gained further momentum through initiatives that promote data-driven agriculture and resource-efficient production systems. Recent international discussions have highlighted the importance of combining digital technologies with sound agronomic practices to improve productivity while conserving water and reducing production costs. Researchers and policymakers also emphasise that scalable digital solutions must remain accessible and adaptable

to local farming conditions, particularly for smallholder producers.

Water availability is becoming one of agriculture's greatest challenges.

Smart irrigation is evolving from a technological innovation into a practical farm management tool that supports efficient resource use, improves crop performance and strengthens resilience against drought and climate variability.

Data Snapshot

- Agriculture accounts for more than 70% of global freshwater withdrawals.
- Smart farming technologies can reduce fertiliser use by up to 40% in some cropping systems while maintaining or improving yields.
- FAO hosted its first Global Conference on Smart Farming from 1–3 July 2026, focusing on scaling data-driven agricultural solutions.

Source

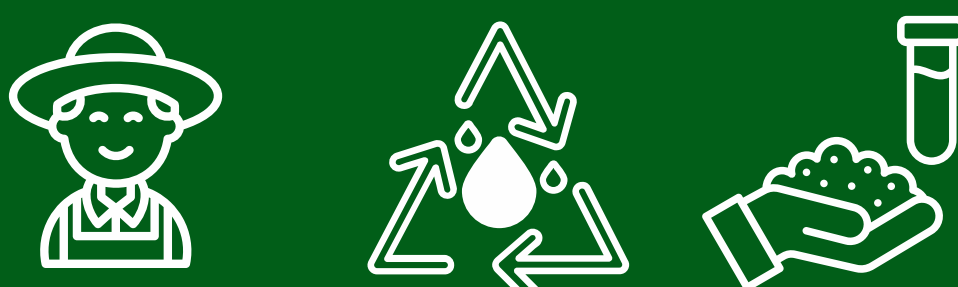
FAO, World Bank, CGIAR, International Commission on Irrigation and Drainage (ICID).

AGRI FACTS

- Nearly one-third of the world's soils are moderately to highly degraded, affecting productivity, nutrient-use efficiency, and climate resilience.
- Rice cultivation contributes nearly 10% of global agricultural methane emissions, driving innovations in water-saving irrigation and low-emission farming.
- Women contribute substantially to agricultural labor globally, yet studies show that equal access to land, finance, and inputs could significantly improve farm productivity.



GLOBAL AGRI DEVELOPMENTS



Global Food Systems Strengthen Resilience amid Market Uncertainty



Field Focus

Global food systems continue to demonstrate resilience despite increasing climate variability, geopolitical tensions and evolving trade dynamics.

The recently released OECD-FAO Agricultural Outlook 2026–2035 projects that agricultural production will continue to grow over the next decade, supported by technological innovation, productivity improvements and more efficient resource use.

However, the report also highlights that market volatility, weather extremes and supply chain disruptions remain significant risks to long-term food security.

International organisations are encouraging countries to diversify supply chains, strengthen domestic production capacity and invest in climate-resilient agriculture.

At the same time, advances in digital agriculture, improved crop genetics and sustainable farming practices are expected to contribute to more stable food production while reducing environmental impacts.

As global demand for food continues to rise, balancing productivity with sustainability is becoming a central priority for agricultural development.

The future of global food systems will depend not only on increasing production but also on improving resilience. Investments in climate adaptation, efficient markets, sustainable resource management and international cooperation will play a vital role in ensuring reliable food supplies in an increasingly uncertain environment.

Data Snapshot

- The OECD-FAO Agricultural Outlook 2026–2035 forecasts continued growth in global agricultural production over the coming decade.
- Agricultural production is projected to grow faster than sectoral greenhouse gas emissions, reflecting gains in productivity.

- FAO's 77th Committee on Commodity Problems meets from 13–15 July 2026 to review global commodity and fertiliser market trends.

Source

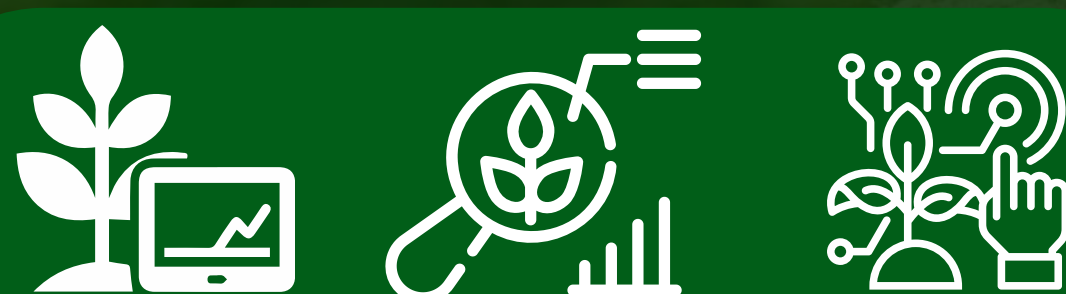
OECD, FAO, OECD-FAO Agricultural Outlook 2026–2035.

AGRI FACTS

- Climate-resilient agriculture increasingly integrates traditional knowledge with modern science for adaptive farming systems.
- Studies show that diversified cropping systems often improve long-term resilience against pests, market shocks, and climate variability.
- Nearly one-third of fish stocks are overexploited globally, increasing pressure on sustainable aquaculture systems.



GLOBAL AGRI DEVELOPMENTS



International Rice Research Accelerates Climate-Smart Farming



Field Focus

Global rice research is advancing rapidly as scientists develop climate-smart production systems to help farmers adapt to rising temperatures, water scarcity and changing weather patterns.

Research programmes led by the International Rice Research Institute and CGIAR are combining advanced breeding, digital technologies and improved agronomic practices to strengthen rice-based farming systems across Asia and Africa.

Recent initiatives are focusing on shortening breeding cycles for climate-resilient rice varieties, improving seed systems and promoting low-emission cultivation practices. Researchers are also expanding work on direct-seeded rice, precision agriculture and decision-support tools that improve water and nutrient management while maintaining productivity.

These innovations aim to help farmers produce more with fewer resources and enhance resilience to climate-related risks.

Climate-smart rice farming is no longer centred solely on improved varieties.

It increasingly combines genetics, digital innovation, sustainable crop management and farmer-centred advisory services to create integrated solutions for resilient and resource-efficient rice production.

Data Snapshot

- Rice is the staple food for more than half of the world's population.
- IRRI continues to expand research on direct-seeded rice, precision agriculture and accelerated breeding.
- New breeding approaches aim to reduce the time required to develop climate-resilient rice varieties.

Source

IRRI, CGIAR, FAO.

AGRI FACTS

- The “One Health” approach increasingly connects soil, plant, animal, and human health, influencing modern agricultural policies.
- Salinity now affects over 20% of irrigated land globally, threatening productivity in major food-producing regions.
- Genome editing tools such as CRISPR are being explored to develop crops with improved climate resilience and disease resistance.



GLOBAL AGRI DEVELOPMENTS



Agri Startups Drive the Next Wave of Digital Agriculture



Field Focus

Agri startups are playing an increasingly important role in accelerating the adoption of digital technologies across the agricultural value chain.

From artificial intelligence and satellite analytics to drones, precision farming and digital advisory platforms, emerging enterprises are developing practical solutions that help farmers to improve productivity, optimise resource use and strengthen climate resilience.

The focus is gradually shifting from technology development to scalable implementation. During the FAO Global Conference on Smart Farming held in Rome, from July 1–3, 2026, policymakers, researchers, entrepreneurs and industry leaders highlighted the importance of building innovation ecosystems that connect startups with farmers, financial institutions and public agencies.

Discussions also emphasised the need for investment, digital infrastructure and supportive policies to ensure

that smart farming technologies become accessible to producers of all scales rather than remaining limited to pilot projects.

The future success of agri startups will depend not only on technological innovation but also on their ability to deliver affordable, farmer-centric solutions with measurable impact.

Strong collaboration among research institutions, governments, investors and entrepreneurs will be essential to accelerate digital transformation across global agriculture.

Data Snapshot

- FAO's Global Conference on Smart Farming was held from 1–3 July 2026 in Rome.
- The conference brought together governments, researchers, startups and private-sector innovators to advance smart farming.

- Scaling innovation ecosystems and investment emerged among the key priorities for digital agriculture.

Source

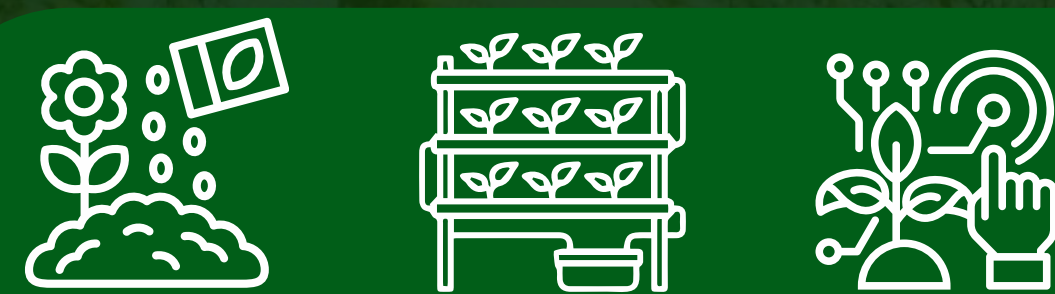
FAO, CGIAR, World Bank, OECD.

AGRI FACTS

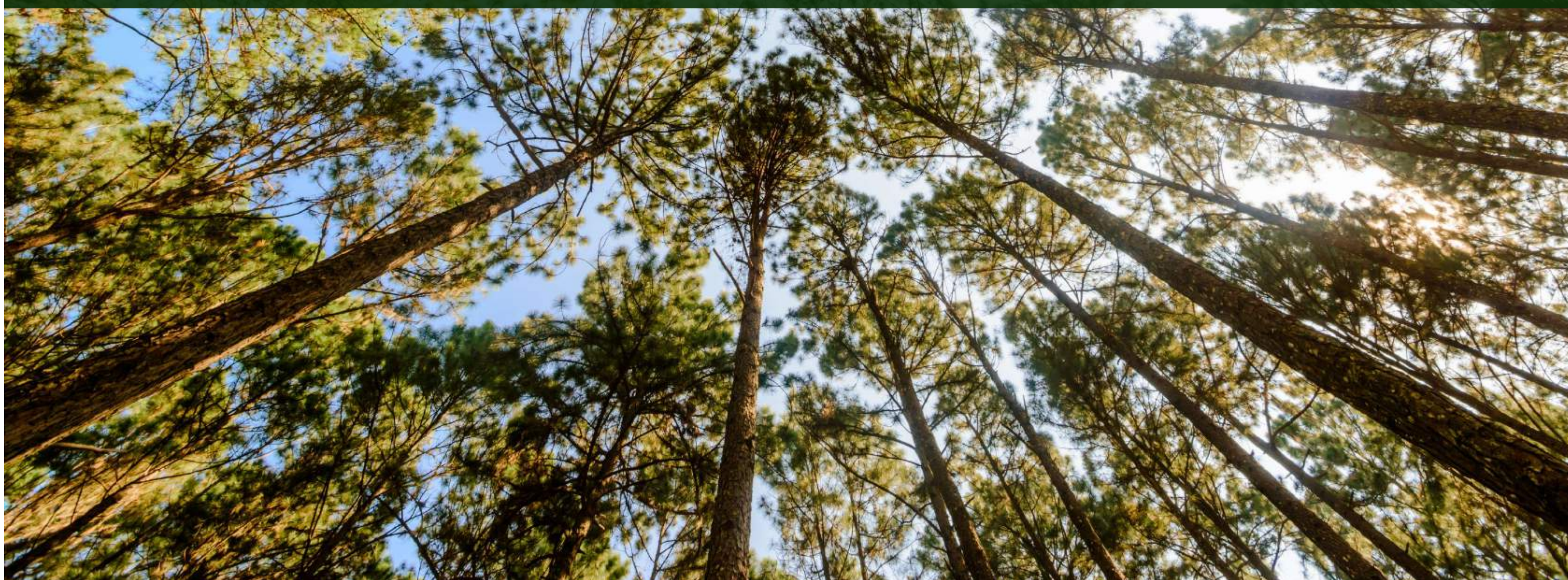
- Climate-induced pollinator decline is becoming a hidden risk for fruit, vegetable, and oilseed productivity worldwide.
- Precision livestock farming uses wearable sensors and AI to monitor animal health, feeding behavior, and disease risks in real time.
- Agricultural insurance powered by satellite data and weather indices is expanding protection for smallholder farmers against climate shocks.



GLOBAL AGRI DEVELOPMENTS



Agroforestry Gains Global Recognition through Improved Forest Monitoring



Field Focus

Agroforestry is receiving increased international attention as new monitoring approaches help distinguish tree-based farming systems from natural forests, supporting both sustainable agriculture and responsible land management.

The Food and Agriculture Organization (FAO) has released updated guidance that uses earth observation, geospatial technologies and satellite data to improve the mapping of tree crop commodities such as cocoa, coffee, rubber and oil palm grown within agroforestry systems. These advances are expected to strengthen forest monitoring, improve land-use planning and support sustainability reporting across agricultural supply chains.

Accurate monitoring is becoming increasingly important as countries implement policies on deforestation-free production, climate action and biodiversity conservation. By clearly differentiating agricultural landscapes from natural forests, the new guidance can help

governments, researchers and producers make better-informed decisions while recognising the environmental value of well-managed agroforestry systems.

Agroforestry is increasingly recognised as a practical solution that combines agricultural production with environmental stewardship.

Integrating trees into farming systems can improve soil health, enhance biodiversity, strengthen climate resilience and diversify farm income while contributing to sustainable landscape management.

Data Snapshot

- FAO released new forest monitoring guidance for tree crop commodities on 3 June 2026.
- The guidance applies to cocoa, coffee, rubber and oil palm grown in agroforestry systems.

- The methodology uses earth observation and geospatial data to improve land-use monitoring and reporting.

Source

FAO Forestry Division, FAO Biodiversity Programme.

AGRI FACTS

- Black Soldier Fly larvae are increasingly used in feed systems as a sustainable protein source for poultry and aquaculture.
- Urban agriculture contributes not only to food production but also to heat reduction, biodiversity, and urban resilience.
- In many countries, farmer producer organizations (FPOs) help smallholders improve bargaining power and market access.





SUBSCRIBE



KhetiValah Global Agri Magazine

• Knowledge • Innovation • Sustainable Agriculture

For the past three years, **KhetiValah Global Agri Magazine** has served as a trusted platform for agricultural knowledge, connecting farmers, researchers, institutions, agri-entrepreneurs, and policymakers through meaningful content and global perspectives.

As a monthly international publication, the magazine brings together expert articles, research insights, farming practices, policy updates, interviews, success stories, innovation trends, and knowledge from across the agricultural ecosystem.

Your subscription supports our mission to strengthen agricultural awareness, promote sustainable farming, and expand knowledge access for farming communities worldwide.

SUBSCRIPTION PLANS

Printed Subscription (India Only)

12 Issues – 12 Months

₹999 (Inclusive of GST) + ₹240 Postal Charges

Digital Subscription (Worldwide Access)

12 Issues – 12 Months

₹149 (Inclusive of GST)

USD \$2 for Global Readers

Email: magazine@khetivalah.com

Website: www.khetivalah.com

Join the KhetiValah Knowledge Community

Empowering agriculture through knowledge, innovation, and global collaboration.



Scan the QR Code

YOUR VOICE MATTERS : Customers suggestions & Feedbacks

At KhetiValah Global Agri Magazine, we believe that meaningful agricultural knowledge evolves through dialogue, shared experiences, and community participation.

In this regard, we value the thoughts and perspectives of our readers, including farmers, researchers, students, agri-entrepreneurs, policymakers, and development professionals.

Your feedback would help us to continuously improve the quality, relevance and impact of our magazine.

WE INVITE YOU TO SHARE

- Feedback on articles, design, and magazine sections
- Suggestions for future topics and special editions
- Agricultural innovations, success stories, and field experiences
- Research highlights and institutional initiatives
- Ideas that support sustainable agriculture and rural development

Your voice matters in shaping a stronger knowledge platform for the global agricultural community.

Customers suggestions & Feedbacks

magazine@khetivalah.com

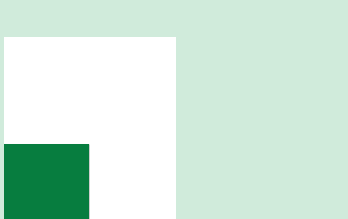
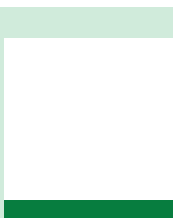
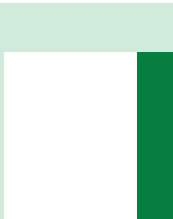
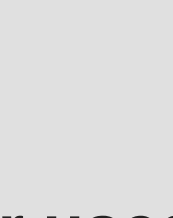


Subscribe or Enquire
Scan the QR Code

ADVERTISING RATES MECHANICAL DATA & Layouts

Card Rates are as follows: All Rates are in INR

Cover	1 Issue	Frequency Discount
Back Outside Cover (BOC)	90,000	2 – 4 –Inserts – 6%
Front Inside Cover (FIC)	90,000	
Back Inside Cover (BIC)	70,000	4 – 6 –Inserts – 10%
Double Spread DS	1,20,000	6 – 9 –Inserts –15%
Full Page (Inside) (FP)	45,000	9 – 12 –Inserts –20%
Half Page (HP)	30,000	
Quarter Page (QP)	20,000	
Banner Ad/Strip Ad	20,000	

Page	Width x Height (Inches)	Layouts
Magazine Size	8.5 X 11	
Full Page (Trimmed size)	8.5 X 11	
Full Page (Bleed size)	8.7362 X 11.2362	
Double Page (Trimmed size)	17 X 11	
Double Page (Bleed size)	17.2362 X 11.2362	
Half Page	7.5 X 5	
Quarter Page	3.75 X 5	
Strip Ad (Horizontal)	7.5 X 2.5	
Strip Ad (Vertical)	2.3889 X 10	
		
		

ARTWORK REQUIREMENTS

- Colour: CMYK colours only. No SPOT colours. Colour quality is not guaranteed if SPOT colour used.
- Fonts: Outline or embedded all fonts in the PDF
- File Format: High-Resolution EPS, PS, TIFF & PDF
- Resolution: Advertising materials must be at least 300 dpi and submitted at 100% size.
- KhetiValah Magazine does not accept responsibility for the reproduction of materials when they do not meet these specifications



One Stop Solution for Farmers

KhetiValah: A Boon to the Agricultural Industry



Register @
KhetiValah



Phone:
+91 9030302139



Email:
askus@khetivalah.in



Web:
www.khetivalah.com