> Success is not final,
> failure is not fatal;
> it is the **courage to**
> **continue** that counts
> — *Winston Churchill*

NOVA AGRI GROUP™

Quantum Computing in Indian Agriculture

A NEW FRONTIER

The Indian agricultural sector stands at a critical juncture, grappling with the compounding pressures of climate change, dwindling soil health, and a burgeoning population. While classical computing has powered the current digital farming era, **Quantum Computing (QC)** represents a paradigm shift. By leveraging superposition and entanglement, QC can solve multi-variable optimization problems and molecular simulations that are currently intractable for classical systems.

1. Revolutionizing the Agrochemical Industry

The most immediate impact of QC is in **Quantum Chemistry**, specifically the simulation of molecular structures for pesticides and fertilizers.

- **Molecular Docking:** Quantum computers can simulate the exact electronic structure of molecules. This allows researchers to predict how a new pesticide molecule will interact with a specific pest's protein receptors without exhaustive physical trials.
- Toxicity Prediction: By modeling interactions at the subatomic level, companies can identify potential environmental toxicity or non-target species impact (e.g., harm to honeybees) before a single drop is synthesized.
- The Nitrogen Fixation Challenge: A "holy grail" for QC is simulating the nitrogenase enzyme. Cracking this code could lead to synthetic fertilizers produced at room temperature, drastically reducing the carbon footprint of India's fertilizer plants.

2. Quantum-Enhanced Decision Support (Q-DSS)

For the Indian farmer, QC will likely manifest as the "brain" behind ultra-precise mobile decision-support systems.

- **Hyper-Local Weather Modeling:** Classical weather models often struggle with the chaotic variables of the Indian Monsoon. Quantum-enhanced machine learning can process satellite and IoT sensor data to provide high-probability forecasts at a village level.

- **Supply Chain Optimization:** India loses a significant portion of produce to post-harvest wastage. Quantum algorithms can solve complex "traveling salesperson" problems to optimize logistics, ensuring crops reach markets via the most efficient, temperature-controlled routes.

3. Advancements in Crop Genomics & Seed Innovation

The integration of Quantum Information Science into genomics—often termed **Quantum Agrigenomics**—accelerates the timeline from lab to field.

- **Complex Genetic Mapping:** Quantum algorithms, such as the *Quantum Approximate Optimization Algorithm (QAOA)*, can process high-dimensional genomic datasets to identify markers for drought resistance and nutrient efficiency significantly faster than classical BLAST searches.
- **Precision Breeding:** Beyond simple selection, QC allows for the simulation of complex gene-environment interactions, enabling the development of "designer seeds" tailored to the specific micro-climates of India's 15 distinct agro-climatic zones.
- **Accelerated R&D:** Reducing the breeding cycle from years to months significantly lowers the capital expenditure for seed companies, potentially reducing the end-cost for smallholder farmers.

4. India's Strategic Quantum Roadmap

India is not merely a spectator in this race. The government and private sector are building a robust ecosystem:

- **National Quantum Mission (NQM):** With a significant budget allocation, the NQM focuses on developing intermediate-scale quantum computers (50-1000 physical qubits) over the next eight years.
- **Innovation Hubs:** Initiatives like the **Amaravati Quantum Valley** and collaborations between the **IITs** and global giants (IBM, Google, Microsoft) are creating a pipeline of "Quantum-Ready" agronomists and data scientists.

5. Summary of the Paradigmatic Shift

Feature	Classical Agriculture	Quantum-Enabled Agriculture
Input Strategy	Broad-spectrum/Chemical-heavy	Molecularly targeted/Precision-led
Seed Development	Multi-year field trials	In-silico quantum simulations
Climate Risk	Reactive (based on historical data)	Proactive (based on quantum modeling)
Data Processing	Linear/Sequential	Parallel/Exponential

Conclusion

Quantum computing is transitioning from a theoretical "future tech" to a strategic necessity for India's food security. By shifting from trial-and-error chemistry to precise molecular engineering and from broad weather patterns to quantum-level predictions, India can lead the global transition toward a more resilient, data-driven, and sustainable agricultural economy.

Sincerely,

Ch. Rajesh
Director - **Nova Agri Group**

Welcome note to new employees

"Congratulations and welcome on board. We hand-picked you because we know you'll help us rise to the next level, and we hope you'll always feel free to take the necessary initiatives in your work."

Chilaka Prasad
D.O.J. :26-02-2026
Designation :Asst. Area Manager
Dept. :Marketing

Birthday Wishes

There are two great days in a person's life: the day we are born and the day we discover why. Here is the list of employees who celebrated their birthdays in the month of February.

Chate Nag Raj
Trainee Officer - Marketing
1st February

Thallapalli Harikrishna
Junior Operator - Production
2nd February

Smt. Yeluri Malathi
Director - Operations
10th February

Kanhaiya Narvare
Officer - Marketing
10th February

Pradeep Kumar Sharma
Asst. Area Manager - Marketing
10th February

Suraj Wamanrao Durke
Asst. Area Manager - Marketing
14th February

P Viswanath Reddy
Senior Officer - Marketing
15th February

Mangali Santosha
Helper - Production
20th February

Farmer Feedback

Farmer Name
Laxman

Village: **Andakur,** Mandal: **Bhainsa**
District: **Nirmal**, State: **Telangana**,
Phone : **8500747607**

Farmer **Laxman** used the **Nova Dhruva** product in his paddy crop and observed excellent results after application. The crop became healthy and greener, with improved tillering. In addition, pest infestation was effectively controlled.

The farmer expressed great satisfaction with the performance of Dhruva and stated that **Nova Dhruva** is a very good product for paddy cultivation.

★★★★★

Crop: **Paddy**, 5 Acres
Product Used: **Nova Dhruva**

Top achievers for this month

Congratulations on such a remarkable accomplishment!

Cherukuri Rajesh
Director - Nova Agritech Limited

Vaddempudi Sandeep Reddy
Zonal Manager-Marketing

Naresh Babu Yeragala
Asst. Area Manager-Marketing

Kalagiri Vishnu
Asst. Area Manager-Marketing

Marketing Team Activities


NOVA
DHRUVA
Carrier based Consortia Bio Fertilizer


NOVA
DHRUVA


NOVA
DHRUVA
Carrier based Consortia Bio Fertilizer


A NOVA Product
DHRUVA


NOVA
DHRUVA


A NOVA Product
NOVA
DHRUVA


NOVA
DHRUVA
CORTEVA


NOVA
DHRUVA


NOVA
DHRUVA
Carrier based Consortia Bio Fertilizer

In today's dynamic business environment, financial stability doesn't happen by chance—it is planned. One of the most powerful tools that enables individuals and organizations to plan effectively is financial budgeting. A budget is not merely a set of numbers; it is a financial roadmap that helps convert goals into actionable plans.

This article aims to provide a simple yet comprehensive understanding of financial budgeting—what it is, why it matters, and how it benefits everyone, not just the finance team.

What is Financial Budgeting?

Financial budgeting is the process of estimating income and planning expenses for a defined period, usually a month, quarter, or year. It involves allocating resources to different activities in line with organizational objectives while keeping costs under control.

In simple terms, a budget answers three key questions:

1. What do we expect to earn?
2. What do we plan to spend?
3. Are our spending plans aligned with our priorities and goals?

Whether it is a household managing monthly expenses or an organization planning annual operations, budgeting provides clarity and direction.

Why is Budgeting Important?

Budgeting plays a crucial role in ensuring financial discipline and sustainability. Some key benefits include:

1. Better Financial Control

A budget acts as a benchmark against which actual performance is measured. It helps identify overspending, underutilization of funds, or unexpected costs at an early stage.

2. Goal Alignment

Budgets ensure that financial resources are directed toward strategic priorities—be it expansion, cost optimization, infrastructure improvement, or employee development.

3. Improved Decision-Making

With a budget in place, decisions are based on data rather than assumptions. Management can evaluate whether a new initiative is financially viable before committing resources.

4. Cost Awareness Across the Organization

When departments are involved in budgeting, employees become more conscious of costs and take ownership of financial outcomes.

5. Preparedness for Uncertainty

Budgeting helps organizations anticipate risks, plan contingencies, and remain resilient during economic or operational challenges.

Key Components of a Financial Budget

A well-structured budget typically includes the following elements:

1. Revenue Estimates

Expected income from operations, sales, grants, fees, or other sources. These estimates should be realistic and based on past trends and future outlook.

2. Fixed Costs

Expenses that remain largely constant, such as rent, salaries, insurance, and statutory payments.

3. Variable Costs

Costs that fluctuate with activity levels, such as raw materials, utilities, logistics, and marketing expenses.

4. Capital Expenditure (CapEx)

Planned spending on long-term assets like machinery, technology upgrades, or infrastructure.

5. Contingency Provision

A buffer for unforeseen expenses, ensuring that surprises do not disrupt operations.

Budget vs. Actual: The Real Value of Budgeting

The true strength of budgeting lies not just in preparation but in continuous monitoring.

Comparing budgeted figures with actual performance helps answer:

- Where did we overspend or underspend?
- Were the assumptions realistic?
- What corrective actions are required?

Regular budget reviews enable timely course correction and continuous improvement.

Budgeting as a Tool for Growth, Not Just Control

Often viewed as a compliance exercise, budgeting is actually a strategic enabler. It supports sustainable growth by ensuring that resources are available where they matter most.

Organizations that budget effectively are better positioned to:

- Invest in innovation
- Handle economic uncertainties
- Improve profitability and efficiency
- Build long-term financial resilience

Conclusion:

Financial budgeting is not about limiting spending; it is about ensuring the optimal utilization of resources.. It transforms financial planning from guesswork into a structured process that supports accountability, transparency, and informed decision-making.

As the saying goes:

“A goal without a budget is a mere wish.”

Pesticide Registrations & Biostimulants Inclusion and Available Pesticide Products

In 2025-26, **Nova Agri Sciences Pvt. Ltd. (NASPL)** and **Nova Agritech Limited (NATL)** have obtained several registrations for pesticide and biopesticide formulations from Central Insecticides Board and Registration Committee (CIBRC). Also, NATL added 43 biostimulant products in its marketing license. The details of these products registrations and inclusions are provided below. The registration approvals of these pesticide products from CIBRC and subsequent inclusion in Manufacturing and Marketing Licenses by State Agriculture Department gives NASPL and NATL a tremendous opportunity to leverage its R & D and Production capacities towards development and launch of several new herbicide, fungicide, insecticide and biostimulant products in future. Launch of these products by NASPL & NATL and their subsequent availability to farmers help the farmers not only to fight pest problems in their agricultural fields using superior pesticides but also to promote plant growth and development with increased crop yields using biostimulant products.

Pesticide FIM Products Registrations

Herbicides

S.No.	Technical
1	Clethodim 25% w/w (240 g/L) EC
2	Dicamba 48% w/v SL
3	Fomesafen 11.1% + Fluazifop-P-Butyl 11.1% SL
4	Imazethapyr 35% + Imazamox 35% WG
5	Tembotrione 9% + Atrazine 45% WG
6	Topramezone 10 g/l + Atrazine 300 g/l SC

Fungicides

S.No.	Technical
1	Azoxystrobin 20% + Thifluzamide 15% w/v SC
2	Azoxystrobin 120 g/L + Tebuconazole 240 g/L SC
3	Captan 50% WP
4	Dimethomorph 12% + Pyraclostrobin 6.7% WG
5	Metiram 44% + Dimethomorph 9% WG
6	Metiram 55% + Pyraclostrobin 5% WG
7	Pyraclostrobin 10% + Thifluzamide 10% w/v SC
8	Trifloxystrobin 25% + Hexaconazole 25% w/w WG

Insecticides/Miticides

S.No.	Technical
1	Cartap Hydrochloride 7.5% + Emamectin Benzoate 0.25% GR
2	Chlorantraniliprole 47.85% SC
3	Chlorantraniliprole 50% FS
4	Fipronil 7% + Hexythiazox 2% SC
5	Flonicamid 20% + Fipronil 8% SC
6	Methoxyfenozide 20% + Chlorantraniliprole 5% SC

Biopesticide Formulation Products Registrations from CIBRC

S.No.	Technical
1	*Paecilomyces lilacinus* 1.5% LF
2	*Metarhizium anisopliae* 1.15% WP
3	*Pseudomonas fluorescens* 1% WP

Biostimulant Products Inclusion in NATL Marketing License from Ag. Department (Telangana State)

S.No.	Technical
1	Humic Acid 5% (Powder)
2	Potassium Humate 49% (Powder)
3	Humates and Fulvates-22% (Liquid)
4	Humates (12.5%) Liquid
5	Humic Acid 51% (Granular)
6	Humic Acid 6% (Liquid)
7	Humic Acid 1.5% (Granules)
8	Humic Acid and Fulvic Acid 25.05% (Liquid)
9	Humic Acid and Fulvic Acid 76% (Powder)
10	Ascophyllum nodosum 15% (Liquid)
11	Sargassum tenerrimum 2% (Granular)
12	Kappaphycus alvarezii 24% (Liquid)
13	Sargassum tenerrimum 10% (Liquid)
14	Ascophyllum nodosum 7% (Liquid)
15	Kappaphycus alvarezii 7.2% (Liquid)
16	Kappaphycus alvarezii 9.5% (Liquid)
17	Kappaphycus alvarezii and Sargassum swartzii in ratio of 1:1 (Liquid)
18	Sargassum tenerrimum 10% (II) (Liquid)
19	Adhatoda vassica (Powder)
20	Spirulina 10% (Liquid)
21	Adhatoda vasica Extract 2% (Liquid)
22	Mixture of Humic Acid, Amino Acid, Vitamins and Biochemicals (Powder)
23	Mixture of Seaweed Extract and Algal Extract (Liquid)
24	Mixture of Seaweed Extract; Humic and Fulvic Acid, Amino Acids and Vitamins (Liquid)
25	Mixture of Antioxidant and Vitamins (Powder)
26	Mixture of Humic Acid and Seaweed Extract (Liquid)
27	Mixture of Humic Acid and Seaweed Extract (Powder)
28	Mixture of Humic Acid and Seaweed Extract (Granules)
29	Mixture of Botanical Extract and Seaweed Extract (Liquid)
30	Protein Hydrolysates 25% (Plant Source) (Liquid)
31	Vinasse Residue (Glutamic Acid 18%) (Liquid)
32	Protein Hydrolysate 16.9% (Plant Source) (Liquid)
33	Bacterial Biomass Hydrolysate (Amino Acids 2%) (Liquid)
34	Protein Hydrolysate 1.5% (Plant Source) (Granules)
35	Protein Hydrolysate (Amino Acids 10 %) (Plant Source) (Liquid)
36	Protein Hydrolysate (Amino Acids 5 %) (Plant Source) (Powder)
37	Protein Hydrolysate (Amino Acids 20%) (Plant Source) (Liquid)
38	Protein Hydrolysate 27% (Plant Source) (Powder)
39	Lipo-chito Oligosaccharides from Escherichia coli (Liquid)
40	Lipase from Saccharomyces cerevisiae (Powder)
41	Microbial Cells (Methylococcus capsulatus) : 1 x 109 CFU/g (Powder)
42	Microbial Consortium 1 x 107 CFU/g (Powder)
43	2-Bromo-(l H)-Indole-3 Carboxaldehyde 1 ppm (Liquid)

In February 2026, NASPL made an insecticide product, Nova Bharosa, available for use in different agricultural crop ecosystems. Nova Bharosa contains Ethion active ingredient, which acts as insecticide as well as acaricide. It is recommended for control of insect and mite pests in various crop ecosystems which include Cotton, Chilli, Soybean, Redgram and other Pulse crops and Tea plantations. It is also recommended for control of termites in buildings.

Paddy Fields to the Padma Shri

The Living Legacy of Ramettan

Cheruvayal Raman is a farmer and storyteller from Kammana village in north Wayanad. He is fondly known as Ramettan, and was born on 6 June, 1952, to humble parents belonging to the indigenous Kurichiya tribe in Wayanad. For close to four decades, he has led a lone battle to preserve age-old traditional cultivation methods prevalent in his tribe. With a majority of the country's indigenous rice varieties being lost through the Green Revolution, he has made it his life's mission to preserve the remaining 47 rice varieties utilising organic manure, without disturbing the soil composition.

He upholds the legacy of traditional Kurichiya and Kuruma communities as a full-time paddy farmer. Ramettan also conducts studies on soil and water, as well as on paddy seeds, their growth patterns and preservation techniques.

Ramettan is a recipient of many awards, including the Green Award in 2012, instituted by the Kerala Biodiversity Board. He was also felicitated with the Genome Saviour Award 2016, instituted by the Protection of Plant Varieties and Farmers' Rights Authority of India, for his lifetime efforts in the conservation of traditional rice varieties. In 2017, the alumni of Guruvayoorappan College honoured him with the Abhilash Memorial Award. The story of his gene bank has been presented at many national and international seminars, including the international symposium on Ethnobiology and Ethnoecology held at Belém, Brazil, in 2018. He also received the PK Kalan Award for the year 2022.

The pinnacle of national recognition came in 2023 when the Government of India conferred the **Padma Shri**, the country's fourth-highest civilian award, upon Cheruvayal Raman. This honor served as a testament to his "unrelenting grit" in the field of agriculture and conservation. Clad in his traditional attire even at the Rashtrapati Bhavan, Ramettan's recognition highlighted the vital importance of indigenous knowledge systems in the modern world. For a man who began his journey simply to save the seeds of his ancestors, the Padma Shri was not just a personal victory, but a global spotlight on the urgent need to protect agricultural biodiversity and the rights of tribal farmers.

*Bael (Aegle marmelos), also known as **Wood Apple** or **Bilva,** is a nutrient-dense fruit native to India and Southeast Asia. Revered as a "miracle fruit," it is a staple in both traditional Ayurveda and modern summer diets.*

Highlights

- **Distinctive Appearance:** The fruit has a hard, woody green shell that must be cracked with a hammer or stone. Inside lies an aromatic, sticky orange pulp with a unique sweet-tart flavor, often described as a mix of citrus and marmalade.
- **Summer Superfood:** Renowned for its natural cooling properties, Bael is most commonly consumed during hot months as Bael Sharbet (juice) to prevent heatstroke and regulate body temperature.
- **Nutritional Powerhouse:** It is exceptionally rich in Vitamin C, Calcium, Potassium, and Riboflavin (Vitamin B2). In fact, it contains more riboflavin than almost any other fruit.

Health Benefits:

- **Digestive Hero:** High fiber and tannin content make it effective against constipation, diarrhea, and dysentery.
- **Diabetes Management:** Its low glycemic index and bioactive compounds help regulate blood sugar and improve insulin sensitivity.
- **Heart & Immunity:** Antioxidants and potassium support heart health by lowering cholesterol and blood pressure, while Vitamin C boosts the immune system.

Cultural Significance:
In Hindu tradition, the Bael tree is considered sacred and is frequently planted near temples dedicated to Lord Shiva. Its trifoliate leaves (Bel Patra) are a vital offering in rituals

Creative Culinary Uses

- **Beverages:** Fresh juice (sharbet), smoothies with yogurt/banana, or herbal tea made from dried slices.
- **Preserves:** Often processed into Bael Murabba (jam), puddings, or candies.
- **Savory:** Used in chutneys or pickles when semi-ripe to accompany rice and flatbreads.

*Blueberries are often hailed as a **"superfood"** due to their exceptional concentration of antioxidants, particularly anthocyanins, which provide their signature blue hue.*

History of Blueberries :

Native Americans were the first to recognize the berry's versatility, using it for food and medicinal purposes for over 13,000 years. They called it "star fruit" because of the five-pointed star shape on the blossom end of the berry.

Domestication:

Wild blueberries were first domesticated in the early 20th century by Elizabeth White and Frederick Coville, leading to the first commercial crop of highbush blueberries in 1916.

Modern Expansion

Today, blueberries are grown globally; the US, Canada, China, and Chile are the major distributors.

Health Benefits

- **Heart Health:** Regular consumption is linked to a 32% lower risk of heart attacks. They help lower LDL (bad) cholesterol and significantly improve blood pressure and arterial flexibility.
- **Brain Function:** Anthocyanins accumulate in brain areas essential for intelligence, potentially delaying cognitive aging by up to 2.5 years and improving memory in older adults.
- **Blood Sugar Management:** Despite their sweetness, blueberries have a low glycemic index (53). They can improve insulin sensitivity, aiding those with Type 2 diabetes.
- **Physical Recovery:** Consuming blueberries can reduce exercise-induced muscle damage and soreness by mitigating oxidative stress.
- **Eye Health:** Flavonoids in the berries may protect retinal cells from light-induced damage and reduce the risk of age-related macular degeneration.

Health Benefits

- **Digestive Issues:** Due to high fiber content, excessive consumption (several cups daily) can lead to bloating, gas, or diarrhea.

Medication Interactions:

- **Blood Thinners:** Their vitamin K content can interfere with anticoagulants like warfarin; intake should remain consistent to avoid affecting blood clotting.
- **Diabetes Meds:** Because they can lower blood sugar, they may cause hypoglycemia if taken in large quantities alongside diabetic medication.
- **Kidney Stones:** Individuals with a history of kidney stones should be cautious due to oxalate content in some berry varieties.
- **Staining:** The intense pigments can temporarily stain teeth; rinsing with water after eating is recommended

Thankyou