A JOURNEY IN SEARCH OF THE TRUE SCIENCE IN HARMONY WITH NATURE

THE VICIOUS CYCLE

DEPRESSED PREDATION & PARASITISM

INADEQUATE NUTRIENT SUPPLY

NEED FOR MORE CHEMICAL CROP PROTECTIONS

- Damaged physical structure & changed Chemical composition.
- Loss in porosity & water Holding capacities.
- Soil erosions.
- Dissipated soil humus & Organic content.
- Severe toxicity & soil strata.

NEED FOR MORE FERTILIZER & GROWTH PROMOTERS

- Rapid mutation & Emergence of resistant & Virulent species of pests.
- Qualitative depression.
- Affected sustainability.
- Triggered biotic potential.
- Severe toxicity to plants.

THIS DEADLY VICIOUS CYCLE CONTINUES

If this continues longer we will have to start writing mankind's epitaph.

The result of unleashing a wide array of lethal chemicals in agricultural fields have led to a chain of ecological imbalances in natural populations and obviously the damage is not limited to the animal kingdom. For human beings, the part of same wave of life, it is also only natural that the poisons we use against the pests must rebound to affect us as well. Intensive chemicalization in agriculture is a threat to all global living species, the agro-ecosystem and biodiversity.

Alarming levels of food toxicity are leading to serious health hazards like cancer. Even today residues of pesticides banned long ago are detected in soil, air, water and in many living species because of Bio-accumulation, Bio-magnification, and Bio-retention. These dangerous agents are so intimately mixed with various environmental components that their elimination can take decades.

Since those chemicals used for wide spread killing of pests have had the effect of aiding the evolutionary survivals of the hardier and more harmful ones. The increasing use of these toxic agents continues. We continue to consume poison in the absence of an economically and ecologically viable alternative to chemical agriculture.

THE BURNING GLOBAL QUESTION TODAY!

How to bring back and restore ecologically & economically Sustainable Agriculture?

The science based on the reductionist approach will have no idea of the complex web of organically interrelated causes of the WHOLISTIC nature. Each factor is meaningful in the tangled web of interrelationships but ceases to have any meaning when isolated from the whole. Thus, searching for any clue to this science is absolutely futile, as it requires the knowledge of True Cause, which can't be achieved by compartmental understanding.

Hence, going back to the True Science of Nature is obvious, which interprets the intertwined, interdependent and complemented role of nature. The ideal approach will be to cart off human knowledge and action devote itself for the greatest possible use of the Pure Forces of Nature.

The Global Challenge

Climate change is one of the most serious environmental threats and critical challenge for global food security facing mankind worldwide. FAO estimates that food production must increase by at least 60 percent to respond to the demand of the 9 billion people that are expected to inhabit the planet by 2050. Improving the way to manage agricultural systems and natural resources is fundamental for effectively achieving food security. Population growth, changing diets and land and water scarcity are also long-term trends that threaten our shared vision of a more prosperous future in which well-fed people everywhere are able to achieve their full potential without damaging their environment. The future of food security is not separate from that of natural resources, the environment and climate change – they are inextricably intertwined and thus our response must be as well.

Agriculture must undergo a significant transformation in order to meet the food security & responding Climate Change. The Production system must be more resilient with higher resource utilization efficiency for production.

The essence of sustainability is the maintenance of natural resource productivity.

(Hart & Sands, 1992)

THE TRUTH UNDER COVER

Agro-scientists and the scientific community are strongly inviting rebirth of Organic Farming.

Is this because of the realization that chemical agriculture is unscientific and dangerous and so organic farming may be a better alternative in the absence of any other sustainable environmental technology and that too with out any understanding of true organic farming?

Or

Is this cry for revival of organic farming a reflection of utter frustration ?

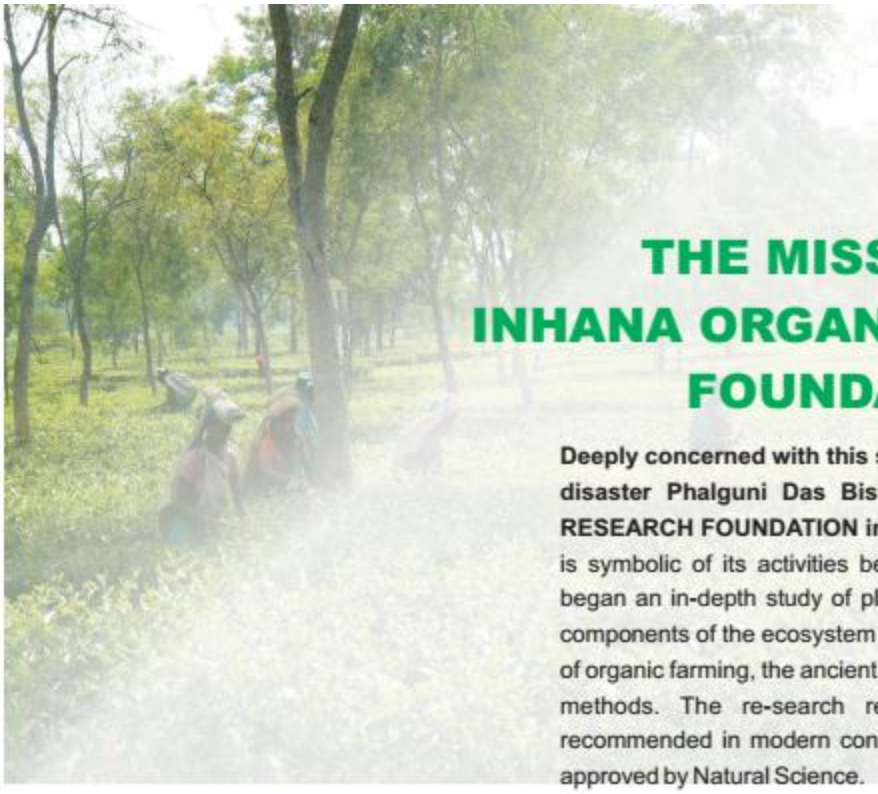
IF A SCIENTIFIC UNDERSTANDING OF TRUE ORGANIC FARMING COULD HAVE BEEN DEVELOPED IT WOULD NEVER HAVE BEEN ABANDONED AS OBSOLETE AND PRIMITIVE.

Nature has retaliated so forcefully to synthetic agents that soil has lost all of its fertility. At the same time plants' owns systems of feeding and protecting themselves are crippled. Consequently they have become dependent on external agents. This is similar to drug dependence in man.

It has to be understood that a mere replacement of chemical and synthetic agents with organic ones or not adding any external agents at all is not true organic farming. Rather, **sudden withdrawal of the external agents will have adverse consequences.**

Current organic methods are not economically viable since they lead to yield drop, high cost and the resultant high price of end products.

There is a huge gap between the theoretical aspect of true Organic Farming and the current organic methods applied.



THE MISSION OF INHANA ORGANIC RESEARCH FOUNDATION

Deeply concerned with this scenario of impending agricultural disaster Phalguni Das Biswas founded INHANA ORGANIC RESEARCH FOUNDATION in Kolkata, India. The name INHANA is symbolic of its activities being IN Harmony with Nature. Thus began an in-depth study of plant sciences and its relation with all components of the ecosystem as well as study of traditional system of organic farming, the ancient Indian wisdom and modern chemical methods. The re-search revealed that none of the steps recommended in modern conventional farming methods could be approved by Natural Science.

The studies also indicated that no problem in agriculture could be approached as a unit problem and should not be treated in isolation.

The subtle balancing factors in soil and plants are individually and collectively so interrelated with each other and also with the other ecological factors that any compartmental focusing cannot serve the purpose. Hence, a comprehensive and interrelated approach is essential taking all components of natures into consideration based on the understanding of Natural Sciences. **Inhana discerned a principle of harmony pervading the entire universe, which says that each individual forms part of all other life and non-life, one with the earth.** Inhana searched for a concept which teaches respect for all that surrounds us, since the individual self merges with the rest of creation.

The answer lies in giving back to nature what she has given us, pure nature's components that give, nourish and strengthen lives from plants to plants, from soil to soil.

These search gave belief that " **Purity is the legitimate right of all**". It was not possible in conventional organic farming in which loss of crop and hike in the cost of production are inevitable (at least in the initial years of conversion). **Hence, inhana's mission started for a true environmental technology, which will ensure both ecological and economical sustainability right from the day one of the conversion.**





INHANA

IN HARMONY WITH NATURE

MISSION ACHIEVED

The study and understanding of ancient wisdom and Modern Science reveals that it is absolutely essential to develop a complete and integrated package of practices, economically and ecologically viable, with complete scientific understanding of each of its components and steps. Inhana realize that in totality such a method has to stand on the following five irreplaceable pillars.

SAFETY

EFFECTIVENESS

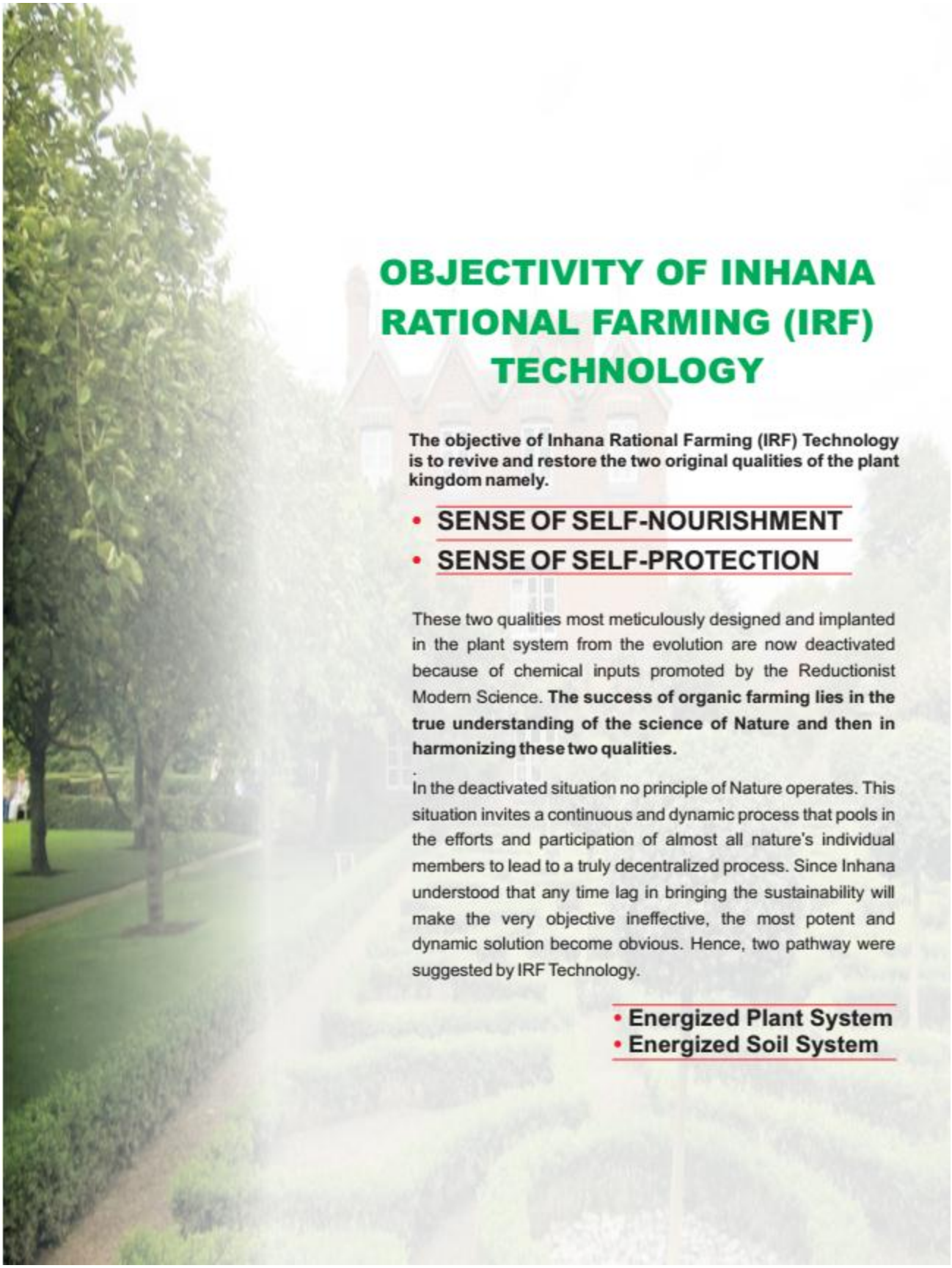
CONVENIENCE

COMPLETENESS

ECONOMY

Thus Inhana developed Rational Farming Technology which **ATTAINS THE PRICIPLE OF ORGANIC FARMING** both in its approach and application at the best. It is both Ecologically and Economically viable and ensures complete elimination of Synthetic inputes. Since it reaches to the root cause of all problems, it is effective against all crops and in all Agro-climatic conditions. Rational Farming Technology comprises a package organic solutions developed under the **ELEMENT-ENERGY-ACTIVATION (E.E.A) PRINCIPLE** which do not add any external components but the desire energies to the plant system, thus possibly the most pure but potent form of organic farming.

Rational Farming Technology of Inhana Organic Research Foundation ensures complete elimination of all synthetic inputs in the most effective and economical way.



OBJECTIVITY OF INHANA RATIONAL FARMING (IRF) TECHNOLOGY

The objective of Inhana Rational Farming (IRF) Technology is to revive and restore the two original qualities of the plant kingdom namely.

- **SENSE OF SELF-NOURISHMENT**
- **SENSE OF SELF-PROTECTION**

These two qualities most meticulously designed and implanted in the plant system from the evolution are now deactivated because of chemical inputs promoted by the Reductionist Modern Science. **The success of organic farming lies in the true understanding of the science of Nature and then in harmonizing these two qualities.**

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In the deactivated situation no principle of Nature operates. This situation invites a continuous and dynamic process that pools in the efforts and participation of almost all nature's individual members to lead to a truly decentralized process. Since Inhana understood that any time lag in bringing the sustainability will make the very objective ineffective, the most potent and dynamic solution become obvious. Hence, two pathway were suggested by IRF Technology.

- **Energized Plant System**
- **Energized Soil System**

HOW IRF TECHNOLOGY ATTENDS THE OBJECTIVE

Two pathways are suggested:

Energized Plant System
Energized Soil System

To attend the first path, Inhana developed various potentised and energized botanical solutions under Element-Energy Activation (E.E.A.) Principle which provide the desired energies and there by stimulate and to activate the plant system to shed off their decades old chemical dependency and function on their own.

Under IRF Technology all individual problems are viewed in a comprehensive manner and their interrelatedness with various other factors and then the solutions are recommended. Since these solutions reach to the root causes of the problems and never give only symptomatic relief the dis-ease state of plant systems are effectively ruled out. The Plants become efficient in feeding themselves and then there is no requirement of fertilizers, growth promoters, hormones, enzymes etc.

The Energized Soil System is provided with an ideal soil inoculation developed by NOVCOM method under IRF Technology. NOVCOM compost is far different from ordinary manure both in its approach and content. The main objectivity of NOVCOM compost is to provide an ideal environment to the soil apart from the storehouse of nutrients. NOVCOM solution developed under E.E.A. Principle converts the various organic waste into an energized and highly charged manure in just 21 days – quickest in the world. It induces organic activity in the soil, provides environment for all beneficial life forms, encourages all soil flora and fauna and virtually works the reanimation of the mother earth.

Apart from the above two functions, the various other Inhana solutions perform a very unique role by reducing the accrued toxicity in the plant system.

IRF Technology does not just attend to the manifestations alone as in other methods. The principle behind the technology reaches the root causes of all manifestations by attending to the contributing factors, underlying causes and fundamental causes.

Inhana is the only organization today IRF Technology which interprets every component of Organic Farming or Rational Farming as a meticulous scientific proposition and at the same time assures no yield drop, no hike in cost, and universal application to all crops.

E.E.A. PRINCIPLE THE NUCLEUS OF IRF TECHNOLOGY

IRF Technology advocates that plant feed and protect themselves. **Inhana also advocates that nature's system is Super-Scientific and there is no human role except to facilitate this.** But in the deactivated situation these laws do not perform. Hence, Inhana recommend various potentised and energized botanical solutions to reactivate plant and soil functions into their original state. All these solutions developed under **ELEMENT-ENERGY-ACTIVATION (E.E.A.) PRINCIPLE.** According to E.E.A. Principle, there are five basic elements Panchamahabhutas in all animate and inanimate objects of the universe. These are Earth, Water, Fire, Air and Space. All living beings are born and evolve out of the basic elements and in death they go back to them and the existence of any living being is totally dependent on them. The individual element has its specific as well as interdependent role in the Nourishment of the plant system.

Similarly, there are five life forces or Prana Shaktis. These life forces provide the functional energies to the basic elements and are also responsible for the defiance mechanism.

Any plant system functions in an orchestral manner till the time of interference by human.

Technology specific plants which restore the energy of the five elements as well as five life forces are identified in accordance with the various parameters. Their potentised and energized extracts are utilized by employing the principle of 'Energy Management' in the various solutions of Inhana Organic Research Foundation (IORF).

The solutions of IORF developed under these principle ensure two things :

(1) **Optimum extraction of nutrients in a balanced manner from their sources and their utilization at specific sites by the plants.**

(2) **Activated host defense mechanism by stimulating both bio-chemical and structural defense of the plant system. Inhana always thought that organic farming need to be understood as a scientific proposition rather a far more scientific than the conventional one.**

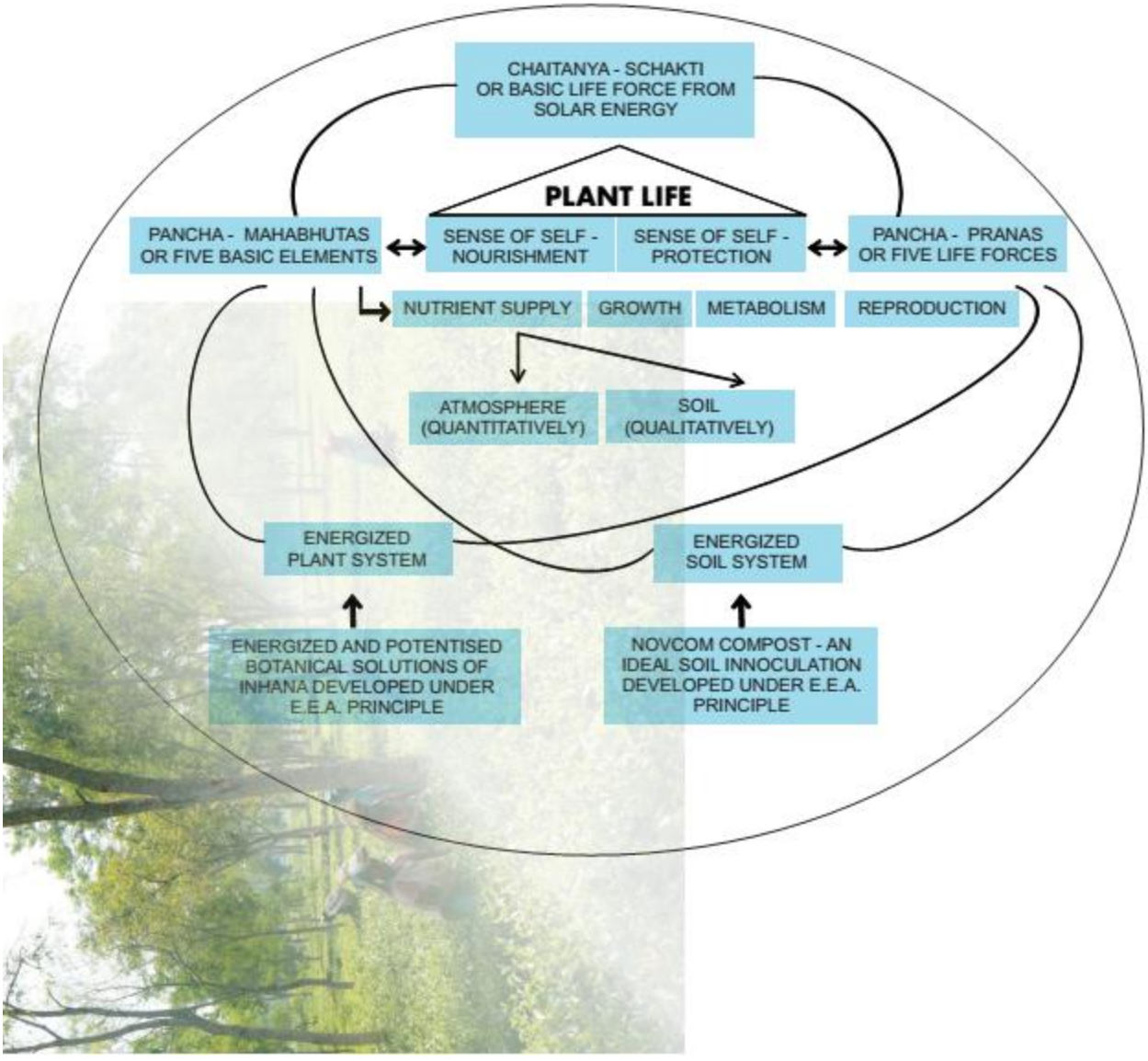
The unique feature of E.E.A. Principle is that it plays a very Effective Regulatory Role on the system rather than an inhibitory role in the manifestation only.

Stimulation of life forces or energies activates the five elements and brings back the imbalance into its original state. Hence, both nutrition and protection are taken care of.

The vital driving force or energy behind them is "Chaitanya Shakti" or basic life force, which manifests in Solar Energy.

Inhana believes that in order to eliminate the ambiguities related to organic farming, the gap between its theory and results, principle and practice must be understood. Inahna gladly has taken up this task.

HOW ELEMENT-ENERGY ACTIVATION PRINCIPLE ATTENDS PLANT LIFE

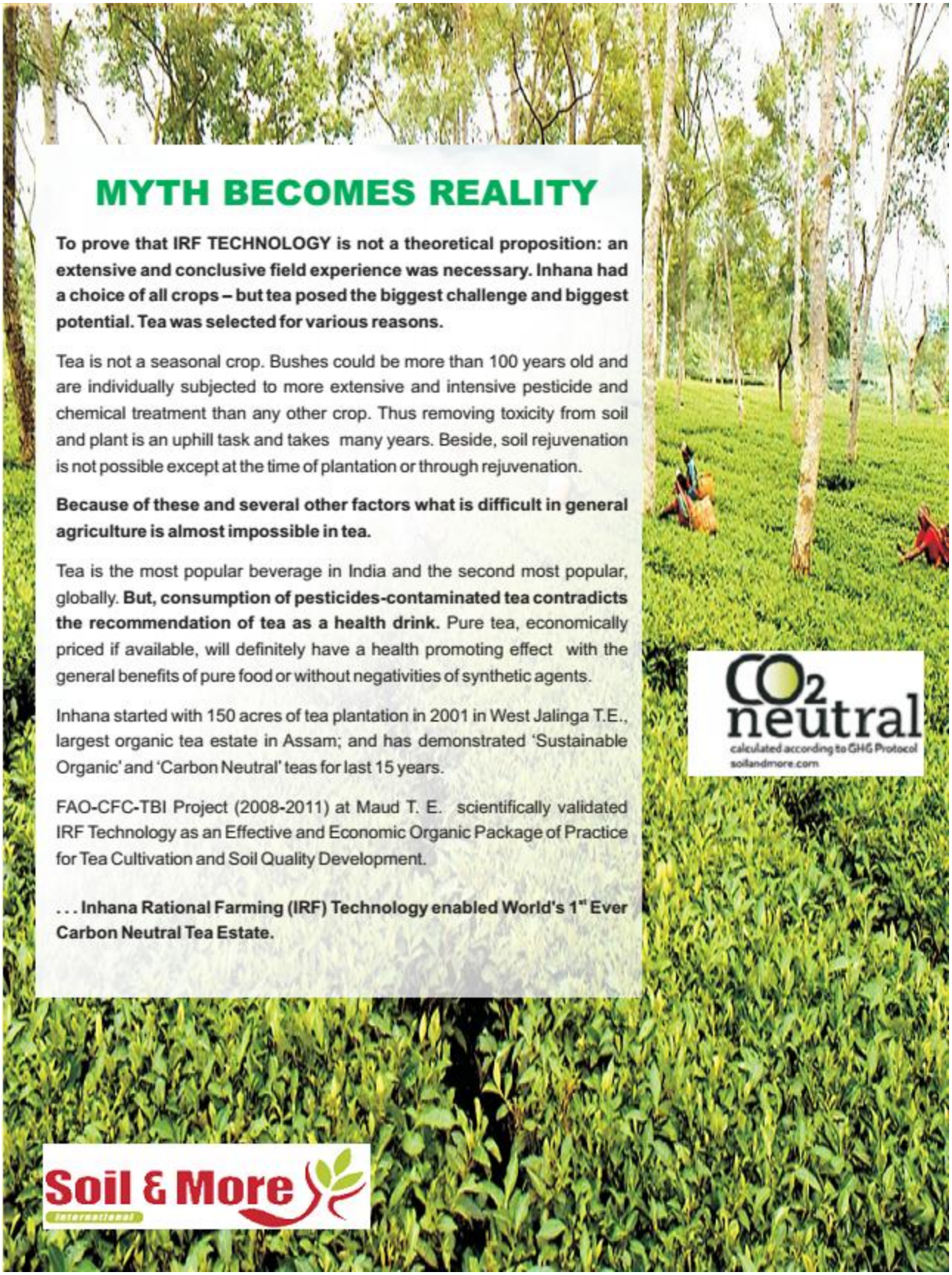


Inhana Rational Farming (IRF) Technology is a wholistic organic method and a tool to provide organic food to all as their legitimate right. Hence, it rigidly observes the following :-

- **Total prohibition of use of all chemicals.**
- **Cidal approach is disallowed and biological pesticides can not be used.**
- **No growth hormones and no enzymes are required or permitted to be used since IRF Technology stimulates the plant functions to release these agents in the desired way.**
- **It even does not permit the use of microbial culture because IRF Technology creates an ideal environment for these agents to grow and multiply automatically.**
- **It stimulates activates and energizes only the subtle components of the plant system for the effective gross performance.**

IRF Technology of Inhana Organic Research Foundation has a WHOLISTIC approach which provides the right environment be it plant or soil and biodiversity enhancement under this technology is the obvious outcome. **In other words true organic farming or IRF Technology ensures, promotes, and retain the biological cycle in the most efficient and in the speediest manner. The area where IRF Technology is practiced has been evaluated by the ecological scientists and confirmed about it.**





MYTH BECOMES REALITY

To prove that IRF TECHNOLOGY is not a theoretical proposition: an extensive and conclusive field experience was necessary. Inhana had a choice of all crops – but tea posed the biggest challenge and biggest potential. Tea was selected for various reasons.

Tea is not a seasonal crop. Bushes could be more than 100 years old and are individually subjected to more extensive and intensive pesticide and chemical treatment than any other crop. Thus removing toxicity from soil and plant is an uphill task and takes many years. Beside, soil rejuvenation is not possible except at the time of plantation or through rejuvenation.

Because of these and several other factors what is difficult in general agriculture is almost impossible in tea.

Tea is the most popular beverage in India and the second most popular, globally. **But, consumption of pesticides-contaminated tea contradicts the recommendation of tea as a health drink.** Pure tea, economically priced if available, will definitely have a health promoting effect with the general benefits of pure food or without negativities of synthetic agents.

Inhana started with 150 acres of tea plantation in 2001 in West Jalinga T.E., largest organic tea estate in Assam; and has demonstrated 'Sustainable Organic' and 'Carbon Neutral' teas for last 15 years.

FAO-CFC-TBI Project (2008-2011) at Maud T. E. scientifically validated IRF Technology as an Effective and Economic Organic Package of Practice for Tea Cultivation and Soil Quality Development.

. . . Inhana Rational Farming (IRF) Technology enabled World's 1st Ever Carbon Neutral Tea Estate.

CO_2 neutral
calculated according to GHG Protocol
soilandmore.com

Soil & More
International

UNIVERSALITY

Nature Speaks The Same Language Everywhere

IRF Technology has shown remarkable success from the very first year when critically evaluated in different University Agricultural Farms, Government Research Stations, Krishi Vigyan Kendra and farmers' field with respect to large scale adoptability taking wide varieties of agri-horti crops in various agro climatic zones.

Over a decade's association with agriculture, primary aim of IORF was to enhance the livelihood options of the marginal and resource poor farming community.

Adoption of Affordable Organic or Green Farming Model ensures remunerative agriculture even under the present climate change impacts, thereby making their farming systems more profitable and sustainable.

It's Now an established fact ... crop sustainability without any time lag & without cost hike under IRF Organic.

However considering the challenges of resource availability for Complete Organic, Inhana's central goal is to ensure **a viable Road Map for Safe Food Production, irrespective of Farmers' Class. Hence, IORF Introduced three 'Sustainable Farming Modules'** around 2012. The ides was to ensure crop through effective resource utilization and protection of human health from direct exposure to toxic chemicals.

- INHANA Green Farming - Zero Pesticide Crop Production.
- INHANA Ever Green Farming - Complete Organic under IRF Technology.

Healthy isn't a Goal. It's a way of living.

Successful Launch of New Concepts of Sustainability: Make food Safe

Considering that Resource availability is a major bottleneck towards effective soil management and crop support under organic production, IORF introduced three resource based 'Sustainable Farming Modules' contemplating the possibilities for reducing toxicity and ensuring sustenance, outside realm of organic.

Inhana's aim was to ensure that the food we eat is not contaminated with potentially harmful toxins and chemicals. Inhana Green Farming can be the boon to the Farming community as it ensures large scale Pesticide Free End Product at same or even lower than conventional cost.

SUPPORTING
Sustainable Agriculture

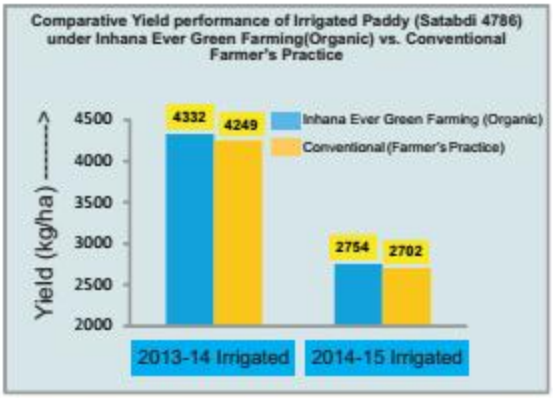
INHANA Green Farming

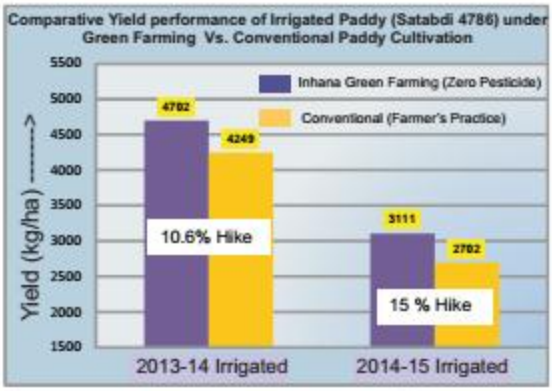
INHANA Ever Green Farming (Organic Farming)

Activation of Plant Physiology remains the focal theme in all the three POP's under IRF Technology. It's relevance becomes magnified if plant's host-defense mechanism need to be activated in order to effectively eliminate the usage of chemical pesticides. It always takes the center stage in any effort towards Climate Smart Agriculture, Energy Efficient Agriculture or any nomenclature of Sustainable Agriculture.

If agriculture is viewed from social dimension, then Inhana Green Farming can protect the agricultural workers health from using pesticides & harmful chemicals that are prime factors of food toxicity and human health hazards. Adoption of this POP will make the farming community ready towards gradual reduction of chemical fertilizers & shall create the scope for achieving the ultimate Sustainability i.e. Organic.

SUCCESSFUL ORGANIC & ZERO PESTICIDE PADDY CULTIVATION UNDER IRF TECHNOLOGY



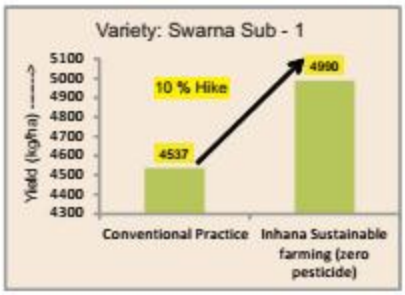


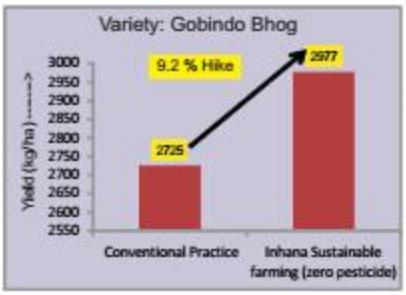
Rice is the staple food of more than half of the world's population. The erratic climatic pattern, indiscriminate use of chemical fertilizers and pesticides, etc. raise questions upon sustainability of paddy cultivation. The climatic impacts are estimated to have the effect of increasing average rice prices by 32-37 per cent and reducing yields by 10-15 per cent by 2050 (IRRI; 2014).

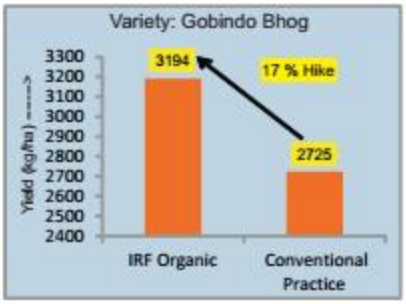
IRF Technology is aimed at making rice production systems more resilient looking at ways to adapt to climate change with the intention of providing long-term food, nutrition and income security to small holders.

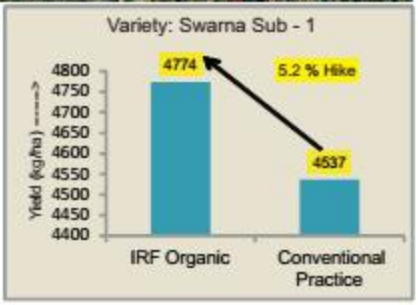
Organic as well as Sustainable Paddy Cultivation with Zero Toxicity under IRF Technology evaluated in KVK Farm, 2013-2015.

Significantly higher crop performance in all the varieties, both in Rainfed & Irrigated Seasons, under both IRF Organic as well as Sustainable Farming Module (Zero Pesticide) compared to Conventional Farmer's Practice. Upto 17% higher yield was obtained under IRF Organic POP compared to the conventional practice.



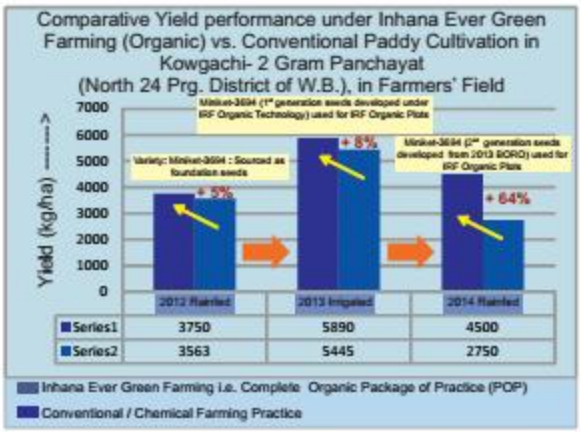


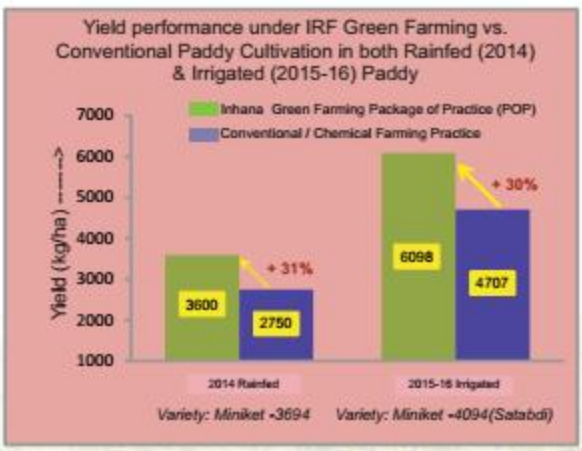




Ideal Lab to Land Transfer Model – Ecologically & Economically Sustainable Paddy Cultivation using IRF Technology

A Case Study from Large Scale Farmers' Field(2012-16), West Bengal.





IRF Technology successfully established Economically affordable Organic & Zero Pesticide Paddy Cultivation Model for large scale adoption by resource poor farming community in the very 1st year.

Presently, Organic Paddy Cultivation in India faces some major bottle necks both principally and in practical applicability and remains mainly restricted to exportability for economic sustenance, large scale Sustainable Organic Paddy Cultivation under IRF Technology in farmers' field have been evaluated under Visva Bharati University from 2012- 2014.

The 2nd Generation Organic Seed developed and managed under the same IRF Technology not only indicated higher qualitative potential of organic seed but also better resilience and withstanding power of the crop against adverse weather conditions.

Successful utilization of Zero Pesticide Paddy (irrigated) Cultivation (2015-16) in about 300 acre land in North 24 Parganas district of West Bengal, encopassing about 200 farmers; is just a testimony.

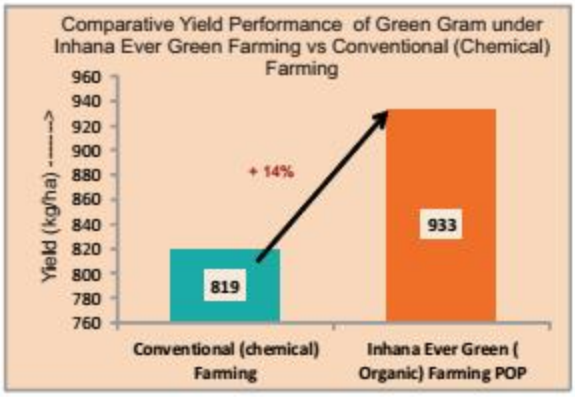
ORGANIC/ ZERO PESTICIDE PULSES CULTIVATION UNDER IRF TECHNOLOGY

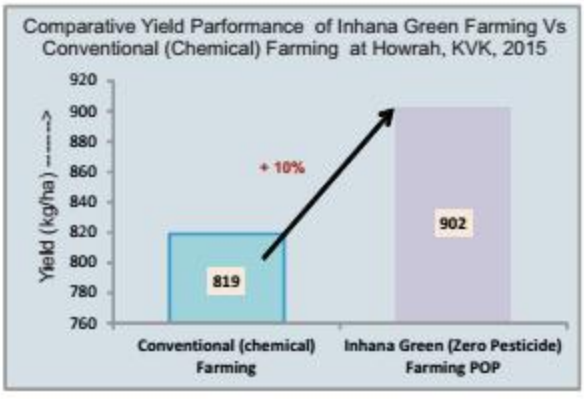
Case studies from University & ICAR (KVK) Farm, 2008- 2015

Higher Crop performance and speedy soil rejuvenation under IRF Organic i.e. Inhana Ever Green Farming specially in problems & stressed soil condition indicates its large scale adoptability potential in an economical manner.

Pulse crop fix atmospheric-N naturally, hence should have lower requirement of fertilizer-N. This criteria is most often ignored under chemical practice. Higher yield under IRF Plant Management (even with reduced fertilizer dose) indicates that hidden potential of this crop has been aptly tapped through activation of plant physiology as brought about by the energy solutions of Inhana.

Second important constituent of Indian diet after cereals. But farmers in West Bengal are not very keen on growing Pulses as production suffers due to a number of biotic and abiotic factors. At the same time lack of proper scientific practices and Crop Management Packages lead to poor yield vis-a-vis economic unviability.

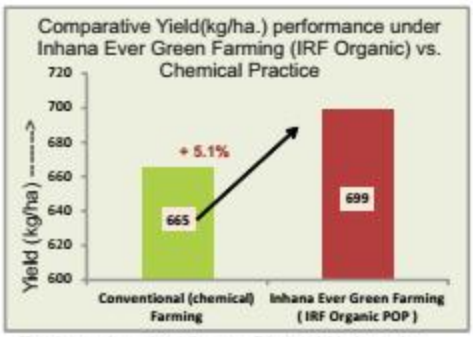




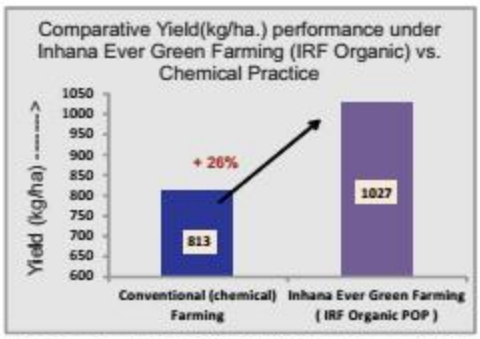
LARGE SCALE SUSTAINABLE ORGANIC GREEN GRAM CULTIVATION IN FARMERS' FIELD UNDER IRF TECHNOLOGY EVEN IN THE LIMITED / STRESSED SOIL CONDITIONS (2008 - 2015)

IORFs' objectivity was to develop an Affordable Organic Cultivation Model for large scale adoption by resource poor farming community especially in problematic/ stressed soil conditions through utilization of a Comprehensive Organic Package of Practice that can ensure **'No Loss in Yield' and 'No Hike in Cultivation Cost' from the very first year of conversion.**

When Climate Change is causing great negative impacts on crop productivity, IRF Organic Technology demonstrates yield augmentation through proper scientific Agronomic Management.



Evaluated under Visva – Bharati University, West Bengal 2013-2014.

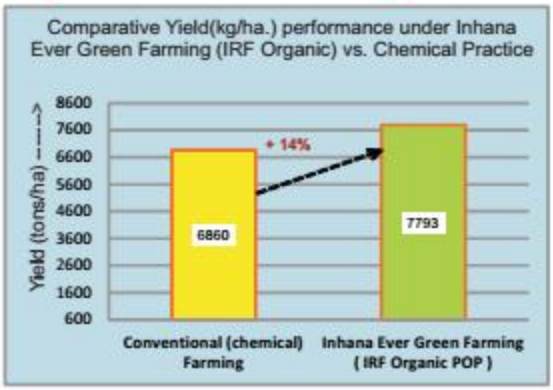


Evaluated under BCKV, Nadia, West Bengal 2008

VEGETABLES.....

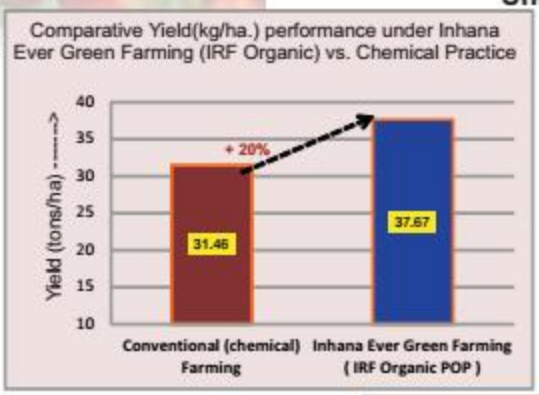
Health Requires Healthy Food

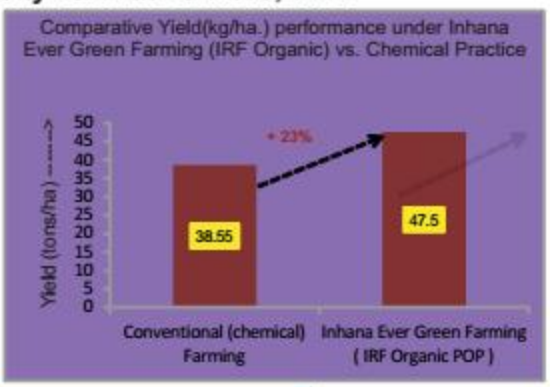
Inhana Rational Farming (IRF) Technology has been used for successful cultivation of 12 to 15 different varieties of vegetables along with Exotic ones. Successful Road Maps in terms of Affordable Organic / Zero Pesticide Cultivation Models has enabled large scale adoption by resource poor farming community especially in problematic/ stressed soil conditions. These sustainable Cultivation Models have demonstrated that 'No Loss in Yield' and 'No Hike in Cultivation Cost' is possible even from the very first year of adoption.

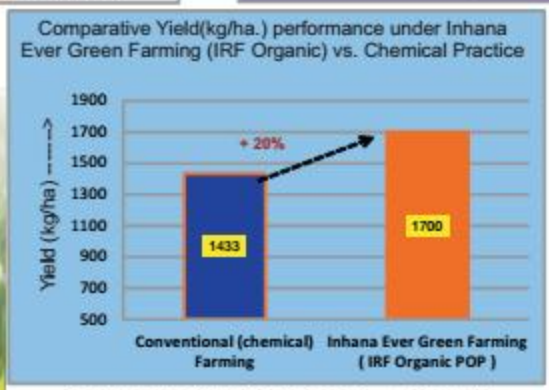


Upto 20% higher yield under Inhana Organic even in the Limiting Soils of farmers' field establish the potential of this Package for large scale adoption in the most economical manner.

Organic Tomato cultivation under IRF Technology in University Farm at Bankura, W.B.

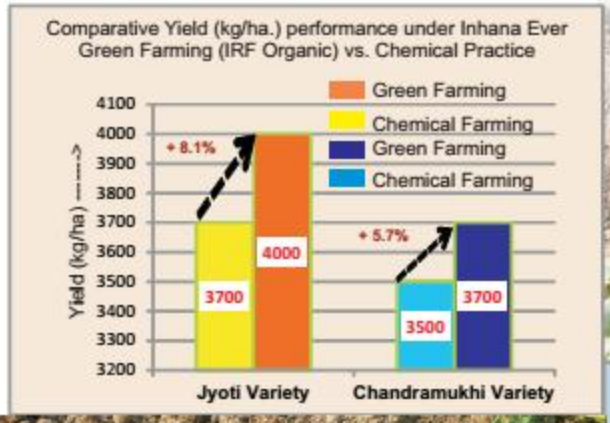


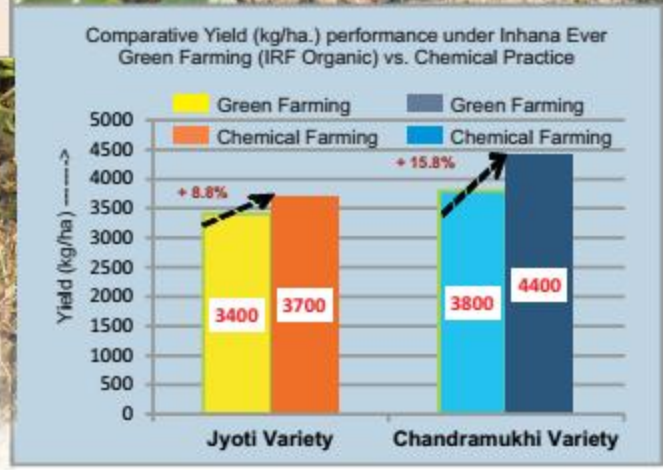


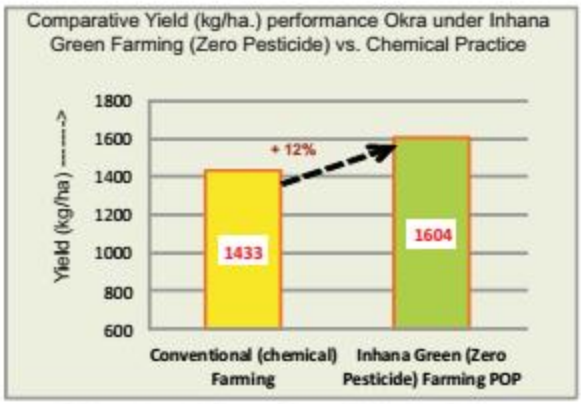


Evaluated under Visva – Bharati University, Bolpur, West Bengal 2014-15.

Sustainable Vegetables Cultivation utilizing Inhana Zero Pesticide Farming under IRF Technology at University Farm & Farmers Field







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INHANA

IN HARMONY WITH NATURE

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