



Food above all

AGRIMANIPUR

Vol. 1, Issue 2 February 2012

Food Security Bill: Panacea to hunger?



Drilling



Meeting with a star: Tomba



Hawaijar

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Editor's viewpoint

The year 2011 ended with a temporary relief of possibly one of longest economic blockades in the world. Bandh(Strikes), blockades, counter-blockades are not alien to Manipur. However, given the length of time of the blockade, '2011 blockade' is unparallel and will always be remembered..... Prices of all essential commodities shot up triple times; 5 km of queue just to get 5 L of petrol. It must have been a record-breaking performance if it was to be considered for *Guinness Book of World Records*. Misery it had caused was insurmountable. State machinery was virtually under siege. Just like a war-time measure, goods-laden trucks were escorted by hordes of police and para-military forces. Ministers opened up mobile shops in a desperate move to convince the people that there was 'rule of law'.

Whom should we blame? Civil organisations or the government? Both must have their faults. Civil organisations, under the name of demanding their 'rights', almost cut the throats of million of people. Govt , both state and centre, were not concerned with the plight of the people as it was expected and, more surprisingly, in spite of earlier experiences,

Blockade, price rise and agriculture

nothing concrete pre-emptive measures were taken. Whatever the case, the real question is how to (prevent such mindless acts from happening in the future) make Manipur immune from such mindless acts. Beyond an obvious responsibility of the govt to understand the problems of the people and taking urgent steps for mitigation through proper governance, we need to ponder and act whatever that's possible. One of the strategies we could surely adopt is horizontal and vertical increase of agricultural crop production. And why shouldn't we? Crop productivity must be increased, land should be better utilised and more varieties of crops should be brought in. The earlier we realise, the better equipped we are. This will also place us in a n advantageous position to outsmart the thugs. Easier said than done? I am certain this is something we can act and achieve. From what we have witnessed and witnessing, it can be concluded that govt actions are directionless. Con-

cerned departments which should have been working in tandem are headed towards their own directionless and self-righteous policies. Departments of agriculture, horticulture and commerce & industries (food processing) need to be independent in their administrative point of view,, and there is an apparent need of greater co-ordination. No amount of success in food processing sector can be achieved without understanding the reality of crops. So, planning should be done with greater co-ordination and hence a common vision can be set. Another void, I feel, is the lack of a regulatory body that look after market; example: Market Promotion and Regulation Board. When all the govt bodies and NGOs work together, with their petty personal gains put aside, towards a common goal, a vibrant Manipur won't be that far. The immediate offshoot ,price rise, a creation of thugs, could be substantially averted.

“ The price of all essential commodities shot up triple times. 5 km of queue just to get 5 L of petrol. It must have been a record breaking performance if it was to be considered for Guinness Book of World Records”

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Letters to Editor

Good to have a web blog for our Manipuri food. In my opinion its very thankful to all the people who upgrade the Manipuri Agriculture forum. Thank u All ... Hoping next time better one for the World to know the herbal and fruit that are cultivated in Manipur. Thanks for the farming of Ngakra (*Clarias magur*) which was saved from nearly extinction

- Chourajeet Chongtham, Delhi

Dear SAFI Team,

Congratulations for your hard work and sincere team efforts to bring out the magazine focussed on Food of Manipur. I happened to see that magazine when I was at Imphal during the celebration of World Food Day (16-17 Oct 2011) organised by AFST(I) Manipur Chapter and Directorate of Industries and Commerce, Govt of Manipur at Porompat. The magazine contains a lot of information in which one can look for scientific research for commercial exploitation. At the same time one can see for intellectual property of our own traditional foods by filing patents. We may have our positive approach that we can introduce Manipur as a land of organic and nutritious foods with traditional touch.

Wish the SAFI Team all the best

Dr. Ng. Iboyaima, Senior Principal Scientist
CFTRI, Mysore, India

MY HEARTIEST CONGRATULATIONS !!!! It is indeed a moment of pride, A Great beginning we all are going to be benefitted.

Premila, Quality Executive, Frooti (Guwahati)

Dayanidhi Huidrom-na chief editor oiraga puthokpa AGRIMANIPUR haaiiba chefong asi yaamnamak pukning thougatingaai oi.

NMna Manipur-da GREEN REVOLUTION ama paammi. agri-gi lamda leiba scientist-singna masi meeyaam-ga loinana changsillakpa paammi. toubagidi sarkaar-na state-kidamak houba ihou oirabadi henna maai paakkani haaina khalli.

AGRIMANIPURda yaaoriba waarengsing chaaoraakna yengle. Subra Hanjabam-ga unaduna waari saabadugumba makhalgi unaba amamam issue khudinggi yaaohanba fagani haaina khalli. chefong asina lou-u-sing-u-gi maaigeida thawaai yaobasingda afaba maayon ama piragani. masina Manipur-da mit naakong oihanbata nattana Manipur-gi lou-u-sing-u-gi maramda khangningbasingdasu kaannaba piragani.

Dayanidhi amadi mahaakki kaangbu-gi asaanba mityeng adu fana singthaajari. chefong asi matam saangna punsiduna Manipur-da lou-u-sing-u-gi lamda lamjing meiraa ama oiba ngamlaksanu.

chefong asigi Manipuri version amasu leiba chungani haaina thaajari. editor amasung mahaakki board of editors-na khangnarakpa oisanu.

Nungsibee Manipur, Facebook page

**HOT
TOPIC**

Food Security Bill: Panacea to hunger?



Introduction

With increasing population and economic disparity, despite number of measures, the absolute numbers and proportion of people having the pang of hunger sees no respite. This itself is a defeat to the nation stride towards development and prosperity. When large section of society goes hungry and malnourished, should we remain silent? One of the critical factors that lead to this is low purchasing power of the consumers. With this view in mind govt devised number of measures. One of the basic measures is provision of subsidised food and makes them available to the so-called 'poor' through fair-price shops. The mechanism by which subsidised grains are available through a network of shops is known as PDS (Public Distribution System). PDS can be broadly categorised as universal PDS (or simply PDS) and a later version targeted PDS (TPDS). Overriding the earlier versions, a new bill of PDS called 'National food Security bill' has recently been tabled at parliament with an aim to enlarge the scope of existing beneficiaries in terms of per capita benefit and total proportion of poor. Failure of the existing pro-poor programmes makes this questionable. What exactly is National Food Security? Will it really benefit poor? What are the con-

cerns? This article is an attempt to uncover the measures taken up by the govt to end hunger since independence and more specifically on the controversial food security bill.

Hunger and malnutrition scenario in India

Hunger and malnutrition are the *pathetic* symbols of India. India growth story on the economic front has so far not been able to cleanse these scourges. According to World Bank estimate, around 42% of the Indian population fall below the poverty line and 50 % of Indian children are malnourished by WHO stds. 2011 rank of Global Hunger Index puts India at 67th rank which is lower than neighbouring countries like Pakistan and China. Is this the justice done by successive govts? The figures may be slightly different according the stds. followed, but we can't deny the fact that nothing concrete has been done since independence to solve this crisis. Quite ironically, these issues are aroused whenever there is election. Poor remains fools and used as a tool for vote-bank politics.

“Hunger and malnutrition are the pathetic symbols of India. India growth story on the economic front has so far not been able to cleanse these scourges. ”

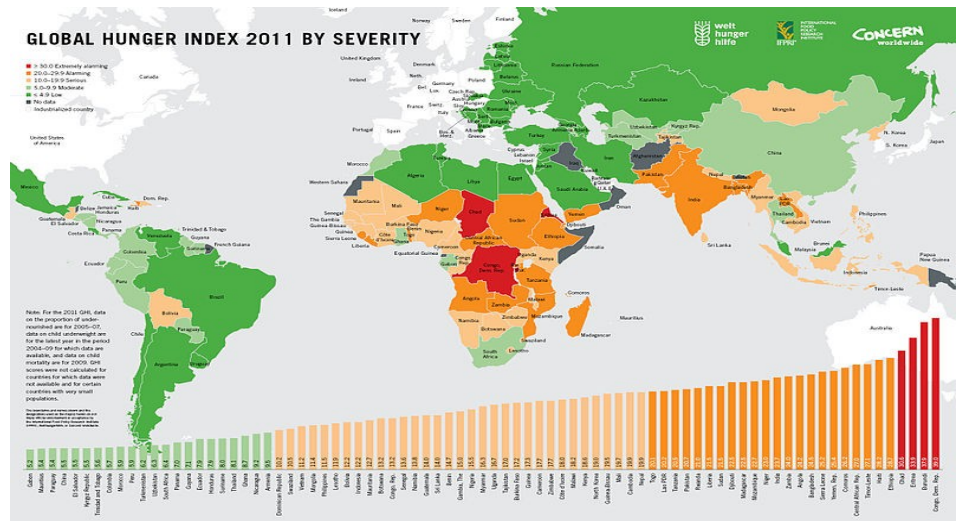
Category	Entitlement (Kg/ month)	Price to be paid by consumer (Rs)
Priority	7	1/2/3 for millets/ wheat/ rice
General	5	Price not exceeding 50% of the Minimum support Price for millets/ wheat/ rice

Genesis of PDS

PDS was started by British govt in 1939 basically as a wartime rationing measure to disperse food in few cities. After independence, India govt continued the scheme during turbulent times like drought and by 1970s it became universal with the aim of alleviating hunger. Objectives of PDS are four folds: maintaining price stability, providing basic foods at affordable price, rationing at the times of scarcity and keeping check of private trade. It is now considered as the most important system to ensure food security. In 1992, revamped PDS (RPDS) was introduced to cover deeper and backward areas. In 1997, with the introduction of Targetted PDS (TPDS), it no longer becomes universal and differential price policy was adopted for 'poor' and 'non-poor'. Again in 2000, Antyodaya Anna Yojana (AAY) and Annapurna Scheme (APS) was launched. "AAY contemplates identification of one crore poorest of the poor families from amongst the BPL families covered under TPDS within the States and providing them foodgrains at a highly subsidized rate of Rs.2/ per kg. for wheat and Rs. 3/ per kg for rice". Under APS, "Indigent senior citizens of 65 years of age or above who are eligible for old age pension under the National Old Age Pension Scheme (NOAPS) but are not getting the pension, are covered 10 kgs. of foodgrains per person per month are supplied free of cost under the scheme". Each state adopts its own policy in terms of fixing baseline price and selection of beneficiaries.

Food Security Bill: A quick look

The proposed food bill is an amalgamation of the existing food security measures like TPDS, AAY, ICDS with an aim to cover more beneficiaries and most importantly providing legal entitlement to the beneficiaries. Essence is that one can fight legally if he/ she doesn't get his/ her justified share. Food bill (NFS) bill aims to cover the even pregnant women. The bill is expected to raise the subsidy by another Rs.



27000 crore per annum. The total subsidy is estimated to be around Rs. 80,000 – 1,00,000 crore. But other analyst like Ashok Gulati and Jyoti Gujral pegged this subsidy at even Rs. 2,00,000 crore per annum in the next three years . The bill also proposed to overhaul the existing redressal mechanism.

At least, 70% (90% in rural areas and 50% in urban areas) of the Indian population is expected to be covered under this scheme. According to the bill, there will be two category of people; priority and general. But the difference between 'priority' and 'general' is not clearly defined. In the first phase, food entitlement is to be extended to 72% and the remaining 3 % will be covered in the second phase.

Lacunae in the existing systems

Though TPDS promises hunger free India, its implementation on the ground is a great setback to the nation. Its failure may be due to various reasons; Creaky food procurement, storage and distribution system, improper identification of 'poor' and above all, intrusion of politics into the system. PDS has always been a great source of embezzlement, frauds of public fund and it's a power centre for politicians. Fraud, corruption, theft, nepotism, etc are the hallmarks of PDS.

Half rotten and has been the eternal source of money and power for politicians. It's well said that once the dark spots in the PDS have been removed, our political system will also be fairer. This defines how much politics is linked with PDS. Unless PDS is made politics proof, equitable distribution of food grains through PDS may be difficult to achieve. Highly regarded study by World Bank estimated that only 41% of the grains released by the government reached the real beneficiaries. Without plugging the holes first, is it advisable to ponder such thought of expansion?

There is also strong school of thought who argues freebies serves no purpose and instead banks on investment on human capital. This argument arises from the fact that experiment of food distribution through PDS has been going on for a long time since but, instead of shrinking the proportion of hunger, it has been blown up. The gap between poor and rich is widening. The argument has its validity. Seemingly, approach needs to be changed. Consider a situation where you are given a free food and, on the other hand, your right to quality education and job are cut off. Situation is similar to prison. Is this what the govt wants? Giving free food in the name of ending poverty is a half hearted effort. Absence of clear distinction between priority and general categories is a source of

confusion. Given the dynamic and complex nature of poverty, it is a sticking point. It is also the soft area where politics will come to play and mess up the noble idea of the act.

Is NFSB in the national interest?

There are two fundamental questions govt needs to answer: 1) Is it justified to focus too much on freebies while neglecting other policies/ schemes having far reaching impact 2) Does the govt have financial strength to do such kind of philanthropy?

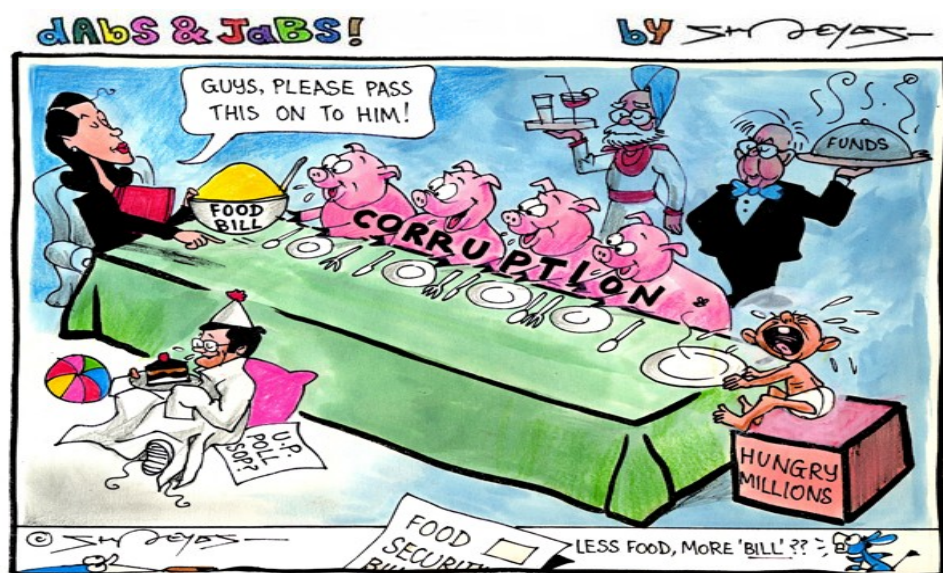
It's not without reason that this kind of pro-poor program has the potential to bust the exchequer. National program like employment guarantee scheme (NREGS) have already bled the national financial health. A Chinese proverb, "Give me a fish to eat; I will eat for a day. Give me how to fish; I will eat for a life time" will be apt to remember. Too much of philanthropy will only make the nation fragile. Short sighted policy can win a vote at the cost of the nation. What is more important is to create jobs and empower people by imparting skill. Indian agricultural productivity is one of the lowest in the world. Increasing productivity and production will not only reduce the inflation but also create huge jobs. With job in hand and low price foods, where is the need doling out free food?

Manipur context

Manipur trust with PDS is similar to what happen in other states but in more

FEW FACTS

- The number of underweight children in India (48%) is almost twice as high as the average prevalence for the 26 sub-Saharan African countries that have similar data (25%) (Source: CRY)
- India's Calorie supply per capita (2007): 2,352 (Source: FAO)
- India's Rice Production (2009): 131,274,000 MT (FAO)



Source: <http://blogs.hindustantimes.com/dabs-and-jabs/tag/national-food-security-bill/> navare.shreyas@gmail.com

complex and convoluted form. Reasons are self evident. In Manipur, the issue is again aggravated with the inclusion of 'nahaarols' (insurgents) in PDS chain. Manipur requirement of essential commodities is largely depended on the inflow from other states. Biggest chunk consists of food grains, sugar and kerosene which are part of PDS. So it's obvious that due focus is given. When there is no rule of law, it becomes a mess. This is exactly what happen; just like animals fighting for their share. The question arises is: Will the new FSB change this scenario or would it simply add salts to the wounds? Second question can be assumed because the state shares of commodities are going to increase with the FSB. With more commodities coming into, more power politics is sure to play.

Concluding Remarks

Endowed with one of the largest arable lands and economic boom kicking, it is a irony (and mystery!) that poverty, hunger and malnutrition are still the hottest topics. India's growth story is largely enjoyed by middle class and upper class. Poor has so far not been able to be touched; so the poor remains poorer and rich become richer. There is an urgent need to bring transparency and reach out to the real needy. FSB should be *de-politicised*. FSB, though good in the short run, is not a final solution. What is most needed is bridging the income gap, creation of job. We all love to live in healthy, strong, well-nourished nation. Manipur cannot be far behind.

Pineapple Squash



Pineapple

↓
Weighing, Sorting,
Cleaning

↓
Cutting, Chopping

↓
Crushing

Fibre

↓
Hydraulic
press

↓
Juice

Juice stored in bottles
with KMS and sealed properly

Sugar boiled in water
with little citric acid

Essence
Colour
KMS

↓
Stirring

↓
Filling and capping in bottles

Recipe

<i>Juice:</i>	1 kg
<i>Water:</i>	1.3 kg
<i>Sugar:</i>	1.7 kg
<i>Water:</i>	1.3 kg
<i>KMS*:</i>	2.5 gm
<i>Citric acid:</i>	42-45 gm
<i>Essence:</i>	Few drops

KMS—Potassium Metabisulphite



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System of Rice Intensification *by Shyamchand M.*

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Introduction

System of Rice Intensification, commonly known as SRI technology was originally developed in Madagascar in the 1980s. It is a set of individual rice cultivation management that can help to increase the yield significantly without much dependence on hybrid seeds, fertilizers and pesticides. This method of cultivation is more popular in Asian countries like, China, Thailand, Cambodia, Sri Lanka and some parts of India. The advantages of this method are requirement of less seed, fewer plants per unit area, less use of chemical fertilizer and pesticides, and encouragement of more organic manures. The table below gives the comparison of conventional paddy cultivation with SRI method of cultivation.

SRI method in paddy cultivation

Land preparation

SRI method of cultivation responds better on organic manure rather than chemical

fertilizers. Organic manures, farm yard manures (FYM) and other forms of manures should be mixed with the soil properly and level the land. Saline and alkali soils are not suitable for the SRI method as, water is drained intermittently. When the soil is allowed to dry, salts are collected on the surface and damage the rice plant.

Raising nursery

Two kg of seeds would be needed for transplanting in one acre. For raising nursery, 400 sq. ft. for nursery bed is required. The bed is prepared with the soil thoroughly mix with farm yard manure (FYM) in the ratio of 1:1 to help in easy penetration of roots. The germinated seeds are broadcasted on the nursery bed and covered with a thin layer of dry FYM followed by paddy straw to avoid direct sunlight and being eaten away by birds.

Preparation of main field

On the properly level puddled field, spacing of 25 cm X 25 cm is marked. Farmers are advised to leave a path for every 2

meters. With this spacing there will be 16 plants per square meter.

Transplantation

Young, 8-12 days old seedlings are transplanted in the main filed. Transplanting should be done carefully to reduce the shock on plant while uprooting. In the SRI method, as the plants are very small, a metal plate is pushed 4-5 inches below nursery and lift on to the plate. This means seedling along with soil is taken on the metal sheet and can be transported to the main field. After uprooting, seedling transplantation should be done as soon as possible

Preparation of main field

On the properly level puddled field, spacing of 25 cm X 25 cm is marked. Farmers are advised to leave a path for every 2 meters. With this spacing there will be 16 plants per square meter.

Transplantation

Young, 8-12 days old seedlings are trans-

Sl	Input	Conventional method	SRI Technology
1	Seed	20-30 kg/acre	2 kg/acre
2	Spacing	Close spacing 15 cm X10 cm, 20 cm X 10 cm , 20 cm X 20 cm	Wider spacing 25 cm X 25 cm
3	Transplanting	Seedlings about 30 days old	8-14 days old
4	No. of Seedling per hill	2-3 seedlings or even more	One seedling
5	Fertilizer	Chemical fertilizer, insecticide and pesticides	Encourages organic form of fertilizer, manure and bio-pesticides
6	Weeding	Chemical herbicides and manual weeding	Use mechanical weeder



planted in the main field. Transplanting should be done carefully to reduce the shock on plant while uprooting. In the SRI method, as the plants are very small, a metal plate is pushed 4-5 inches below nursery and lift on to the plate. This means seedling along with soil is taken on the metal sheet and can be transported to the main field. After uprooting, seedling transplantation should be done as soon

as possible.

Weed management

As there is less standing water in SRI method, weeds will be more. The weeds are tuned into the soil with mechanical weeder instead of throwing out. Weeder is used on 10th and 20th day after transplantation and if it

is not control, it may be repeated on 30th and 40th day. Using weeders, helps in aerating the soil near the roots.

Water management

In the SRI method, instead of flooding, irrigation is done to keep the soil moist. The field should be irrigated again when, it develops hairline cracks. A day before



the weeding, the field should be lightly irrigated to enhance weeding. After panicle initiation to the stage of maturity, one inch of water should be maintained in the field and the water can be removed when 70% of the grains get hardened.

Fertilizers and pesticides

Fertilizers are not necessary, if the main field is prepared with enough amounts of green manures, FYM and other organic manure. Otherwise, recommended fertilizer (75:75:87.5 NPK kg/ha) can be applied. Pesticides are also not necessary for SRI method, but can be used in serious pest infestation.

The basic concept of SRI can be summarized as follows:

Use of good young seedlings: To preserve mature plants growth potential

- Avoid trauma to the roots: Careful transplantation as quickly as possible in a shallow (1-2 cm) depth helps in faster resumption of growth.
- Give plants optimally wider spacing: One plant per hill in square pattern.
- Keep the paddy soil sufficiently moist but not continuously flooded: Rice is a semi-aquatic crop, so, continuous flooding of soil promotes decaying

of roots.

- Actively aerate the soil as much as possible using rotary hoe or Japan weeder to control weeds
- Enhance soil organic matter as much as possible by applying compost, mulch, farm yard manure etc. Chemical fertilizers along with organic form of soil amendment are favorable.

Know your Food

Ngari (Manipuri fermented fish)



<http://www.chakkhum.com>

A fermented fish product locally prepared from a dried fish species mainly the *Puntius* species.

The fish is fermented for at least 3 months. Fermentation is known due to action of succession of different types of bacteria and yeast.

Use:
Integral flavouring agent in almost all food of Manipuri society.

Medicinal benefit:
Not yet established but digestibility was found to be increased.

Source:
¹Thapa N and Pal J, Proximate composition of traditionally processed fish products of the East

<i>Ngari</i> ¹ (Fermented fish)	
Moisture (%)	33.5
pH	6.2
Ash (%)	21.1
Protein (%)	34.1
Fat(%)	13.2
Carbohydrate(%)	31.6
Calcium (mg/100 gm)	41.7
Iron (mg/100 gm)	0.9
Magnesium (mg/100 gm)	0.8
Manganese (mg/100 gm)	0.6
Zinc (mg/100 gm)	1.7



<http://www.flickr.com/photos/76414831@N00/page2/>

Women selling ngari in Kharung

Hawaijar (Manipuri fermented soyabean)



Common name:
Hawaizar (Manipuri)

Type:
Fermented food

Raw material:
Soyabean (*Glycine max*)

Family:
Fabaceae

Habitat:
Usually grown in cool, temperate regions like the mid-western United States and southern Canada but can grow almost anywhere with a warm growing season, ample water, and sunlight

Use:
Dried, fried, roasted; as an adjunct with other dish. Gives a distinct flavour.

Medicinal benefit¹:
Soyabean is known to contain functional compounds like isoflavones, genistin, etc. Effective in treatment of cancer and cardiovascular disease. Helps in brain development.

Source:
¹Journal of Food Science and Technology 42 (2) 111 -119

<i>Hawaizar</i> ² (Fermented soyabean)	
Moisture (%)	51
Ash (%)	1.09
Crude fiber* (%)	8
Soluble Protein* (%)	27
Lipid* (%)	23
Free amino acids* (%)	2
Sugar* (%)	0.21

* dry weight basis

** values were recorded on 3rd day of fermentation

² Assam University Journal of Science & Technology : Biological and Environmental Sciences, Vol. 7 Number 1, 96-100, 2011



<http://japan-trend.blog94.fc2.com/page-2.html>

Natto (Japanese fermented soyabean) is similar to hawaijar but sticky.

FLAVORS - The magical ingredient in food

MANIPUR as a potential supplier of flavors ingredient

- S. Surendro Singh



Sougajam Surendro Singh after his bachelor degree in agriculture had Masters in food technology from prestigious CFTRI. He is presently working in VKL Flavor and Spices as a research and development executive. He has a keen interest in development of food product with local taste and flavours.

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What are flavours?

Flavor is the sensation caused by those properties of any substance taken into the mouth which stimulates one or both of the senses of taste and smell and/or also the general pain, tactical and temperature receptors in the mouth (U.S. Society of Flavor Chemist, 1969).

Flavours and Foods

How flavours are produced and their chemistries and sensory properties are subjects of great interest. Flavourants are almost solely supplied commercially by companies with a core business of developing, producing, and marketing flavours and fragrances. These companies usually divide their business into two main categories: flavours for the food industry and fragrances for the cosmetics and allied products manufacturers. These companies are commonly called flavour houses.

A flavour house's food division is normally departmentally organized into savory, confectionery, dairy, and beverages sections.

How are flavours made?

The technology of flavour development in the laboratory and subsequent mass production in factories is highly complex and beyond the scope of this article. The most elemental types of flavours are those made of whole aromatic plants, such as mint, thyme, oregano, etc. Vanilla, a spice by definition, is prepared by curing beans of

the vanilla plant. When extracting some of the aromatic compounds of the vanilla bean, the flavorant vanillin results. Vanillin is extensively used in soft drinks, such as colas and cream soda formulations.

Aromatic compounds that are not too volatile and other nonvolatile flavor compounds are usually prepared from plant material by the process of extraction. In the extraction process, organic solvents are used to draw out and dissolve the flavour substances, after which most of the solvent, if not all of it, is removed, and the flavourant is retained in its pure concentrated form. In this way, vanillin flavour is produced as well as oleoresins of ginger and various fruit flavours used in food industry.

Volatile aromatic flavouring compounds can be prepared by using the process of distillation, in which water or steam is used to separate the compounds from their source plant materials. There-after, by virtue of the different temperatures at which they condense back into liquid form, they can be distilled in different fractions. These compounds are known as essential oils (or volatile oils).

Essential oils as well as other flavourant compounds can also be prepared by mechanical pressing of the plant source material, as is done in citrus fruit processing where peel oils are collected. These are known as the

cold-pressed oils and often used in beverages. Cold-pressed oils may be used as is or may be further processed by extraction or distillation processes. Cold-pressed oils usually contain flavour essential oil compounds (e.g., terpenes) that are insoluble in water.

These are the basic processes by which base-type flavours are produced. There is, however, further step in preparing a final flavour to be offered by a flavour house to a prospective client involved in developing new product or in making modifications to an existing formulation. The flavour chemists of flavour houses may blend a few base aromatics of a certain fruit flavour arrive at a final flavourant with a specific sensory profile. In another case, a "cooked" flavour compound may be added to a fresh fruit flavourant to lend it a "dessert-type" top note. In another case, a few different base fruit flavours may be blended to result in a "fruit punch" mixture. Or a wine" note may be added for use in an alcoholic soft drink preparation. This is what is sometimes called the "art" in flavour creations.

Manipur as a potential supplier of spice extracts for flavor house

There is a continuing and expanding international demand for herbs, spices and essential oils. Social changes, including food diversification, the desire for new flavours, increasing importance of "ethnic" food and the increased impor-

tance of processed food, which requires condiments and aromatic herbs for its preparation, are driving an increase in this demand. Developing countries have a significant opportunity to benefit from this increasing demand. Many of the products can be sold in a dried form or as extracts (e.g. essential oils), which gives them a high value per unit weight. These products could be a profitable source of diversification for small farmers in developing countries.

Spice extract represents the "true essence of the spice" and consists of the volatile essential oil and the nonvolatile resinous fraction containing the taste components and pigments. Spice extracts can replace spice powder in food and flavor formula-

tion without imparting any flavor characteristics. Spice extract is recovered from the raw spice by solvent extraction process.

Advantages of Spice Extract:

- Uniform, standardized, wholesome flavor of the spice
- Hygienic, free from filth and microbial contamination
- Long shelf-life
- Less storage space

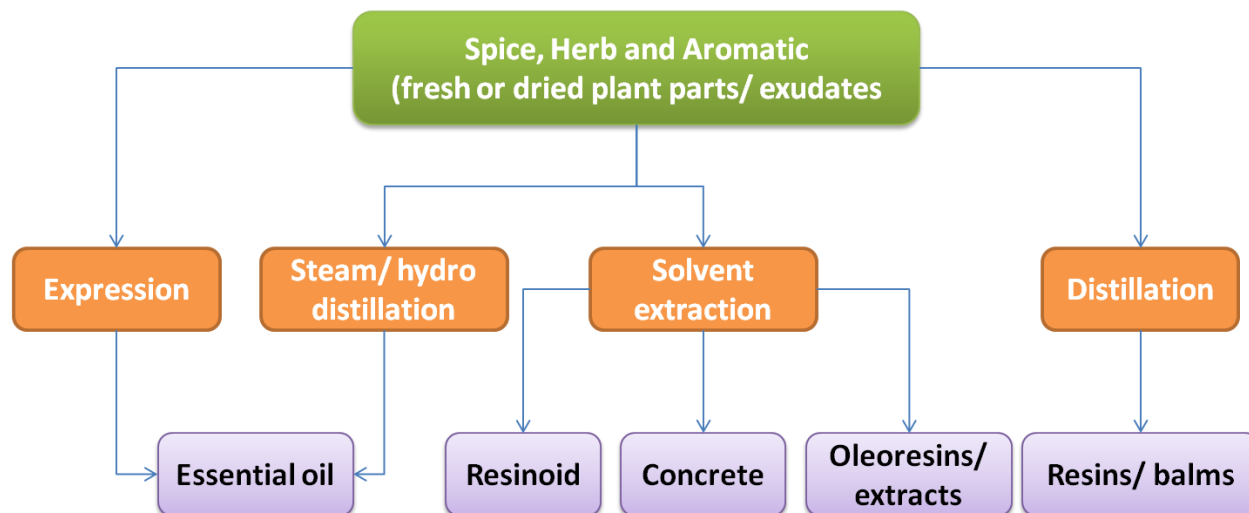
Secondary and Derived Products:

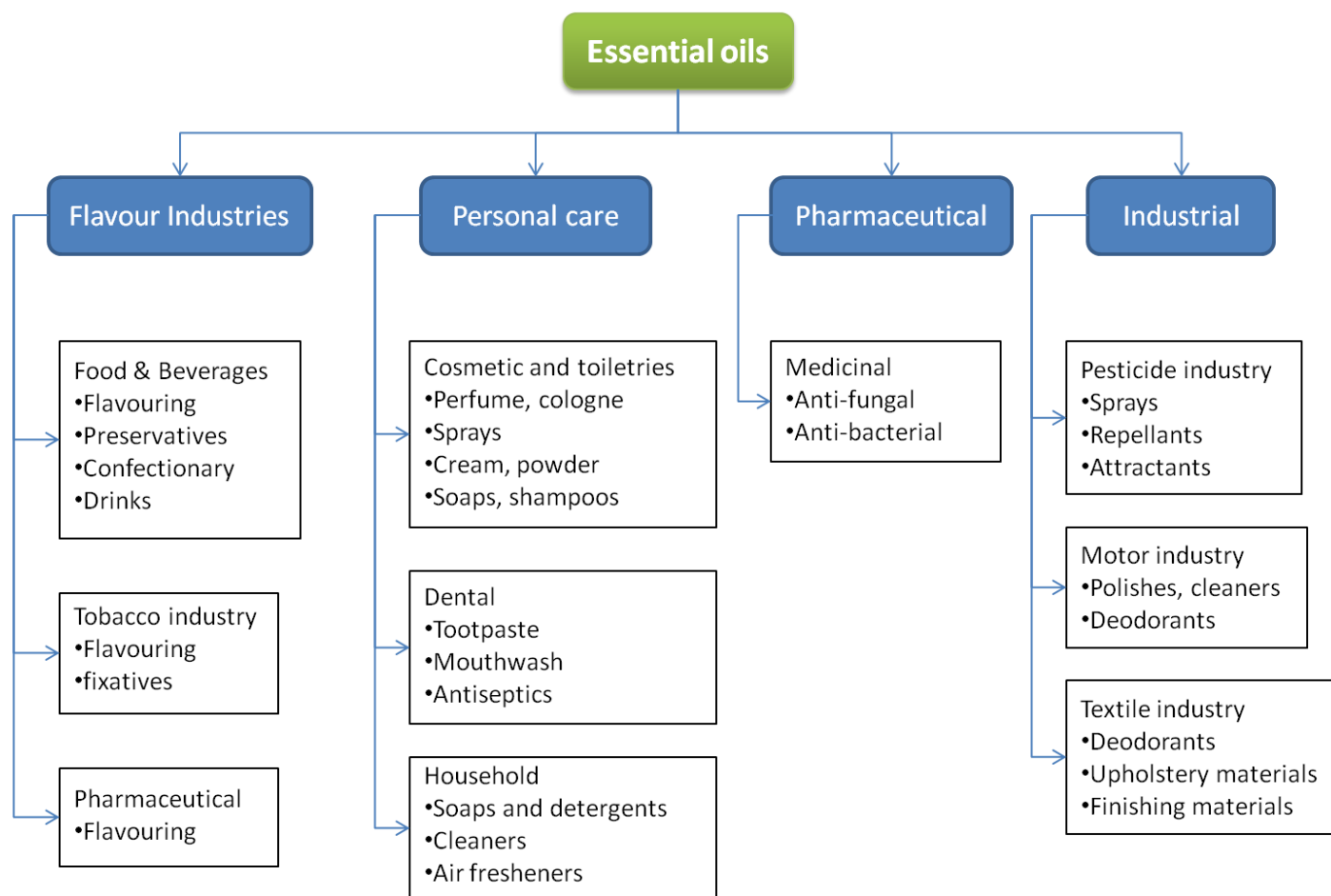
The secondary and derived products are many and varied but the most common are spice mixtures (e.g. curry powders) and compounds extracted from the plant ma-

terial such as essential oils or oleoresins. In cases where the primary spice does not meet the quality specification as a primary product it will often be purchased as a low value product extracted to produce the essential oil, oleoresin or aroma compounds. There is also considerable advantage to the industrial food processor purchasing standardized extracts of known quality, which have no microbial or other contaminants. The spice flavors for food, beverage, or industrial use may come from different extraction processes and these pathways are outlined in Figure 2.

Major Spice Grown in Manipur:

Sl. no.	Spice	Scientific Name	Local Name	Area (ha)	Production (MT)
1.	Chillies	<i>Capsicum annuum var. annuum;</i> <i>C. chinense;</i> <i>C. frutescens</i>	Morok	7324	29296
2.	Ginger	<i>Zingiber officinale</i>	Sing	1265	12524
3.	Turmeric	<i>Curcuma longa</i>	Yeingang	372	4092
4.	Others	~~~~~		991	6878





Conclusion:

The potential farmers who intend to start this industry should adopt a HACCP system, specific to a crop, to help identify the main areas of hazard to food safety and quality in the production chain. There is a need to provide financial assistance to grower co-operatives or businesses to build infrastructure such as crop driers or processing equipment, to ensure high quality post-harvest methods. In addition, there is a need to encourage investment by governments, aid agencies or multi-national companies into state-of-the-art processing factories in the state. It is imperative that growers of niche products such as herbs, spices and essential oils are part of an integrated system which links their production to a particular anticipated (or contracted) market. It is critical to decide in advance whether production is aimed at urban consumers in the same country; an industrial processor in a neighbouring country; or affluent consumers in a distant country. Different investments are appropriate depending on these target markets; and all aspects of the post-harvest chain need

to be in place before production begins. This includes the processing and transportation infrastructure and, importantly, systems for rapid and efficient information flow to and from the market.

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HAPPENINGS

Implementation of National Mission on Food Processing on the card

Imphal, October 16 2011: Under a special policy of the Ministry of Food Processing, National Mission on Food Processing would be launched very soon with the main objective of bringing about development in the production, preparation and processing of foods, Principal Secretary of Commerce and Industries, Government of Manipur O Nabakishore has announced today.

He was speaking at the inaugural function of the World Food Day

observance, which would go on for two days, at the training hall of Food Processing Training Centre, Porompat here today.

The observance is being held under the theme of 'Food prices from crisis to stability'.

On the line of the National Mission, respective State Governments too have to set up State Mission on Food Processing with the Commerce and Industries Minister concerned as chairman

and the Ministry would be sanctioning Rs 2.50 crores each for the purpose, Nabakishore explained.

Maintaining that food processing movement is still new in India as well, Nabakishore observed that Manipur has great scope for development in the field of food processing and the people would reap the benefit surely.

On the first day of the observance today, a seminar was also organized and a booklet titled 'Recipe of traditional foods of Manipur' was released.

Source : Hueiyen News Service

Food Processing Institute in the state soon

Imphal, October 21 2011: The Department of Commerce and Industry is all set to establish a Food Processing Institute at Porompat, Imphal East, the first of its kind in the state.

Sources from the Department of Commerce and Industry said that the institute will be located at the District Industries Centre, Porompat. Although no construction of the said Institute has started, the

training session is set to start from next year.

The source further went on to say that there will be 11 departments in the institute. They are Food Microbiology, Food Chemistry, Quality control, Fruits and Vegetables Technology, Grain Science and Technology, Baking Science and Technology, Food Packaging Technology, Meat, Fish and Poultry Processing Technology, Dairy Technology, Computer Centre and Food Engineer-

ing Department.

These departments will be giving 18 months Advance Certificate Programme, Three Months Certificate programme and 5 to 10 days Short Term Training programmes to the students.

Source : Hueiyen News Service

N.B. There has already been a full fledged institute catering food processing course (SK Women's college, Nambol) at degree level. So the news report that the planned institute is the first institute of its kind is no longer valid.

150 Kgs of rice a year for mid-day meal scheme !

Imphal, November 01 2011: Perhaps this is the proverbial case of facts being stranger than fiction. Kaiphundai village under Tousem sub-division in Tamenglong district received just 150 Kgs of rice for Mid-Day Meal scheme for one whole year.

On account of cruel joke played on them, students of the lone UJB School have been literally left out from the ambit of the noble scheme launched by the Government of

India. Incidentally, Kaiphundai village is exclusively inhabited by Zeliangrongs and has a total population of around 500 . According to the president of the UJB School's students union Duandi Panmei, the school has around 70 students and it has received just 150 Kgs of rice so far this year.

After the building of the school collapsed, the school is being run in three rooms constructed by Assam Rifles under their MCA programme.

A high-ranking official of the Educa-

tion (Schools) Department said that Mid-Day meal rice are lifted from FCI by concerned Deputy Commissioners.

The role of the department is limited to depositing money in the Consumer Affairs, Food and Public Distribution Department. The official maintained that the department always deposited in time.

Even as the Kaiphundai UJB School has two Anganwadi centres, whatever items entitled to Anganwadi centres never reached the two centres, said Kaiphundai Women Union president Tabitha Gangmei.

Source : The Sangai Express

Capitol Project leaves Poultry Farm nowhere

Imphal, November 22 2011: The activities of the lone Central Poultry Farm of the state at Mantripukhri have stopped after the land of the farm was acquired by the state government for construction of Capitol Project.

Though a survey had been conducted at Khumbong for shifting of the poultry farm, none could say for sure when the construction work would be started.

However, the land as well as the building of the Central Poultry Farm has been taken over by the state government for setting up Capitol Project and the farm has remained defunct since December 2010 .

Revival and relocation of the defunct Central Poultry Farm would be great help in generating employment opportunities among the unemployed educated youths in the state.

Source : Hueiyen News Service



'Agri Dept responsible for dependency on others'



Scene of a Nupilal

Imphal, December 23 2011 : AMUCO President KT Rahman today alleged that the negligence of state Agriculture Department is responsible for dependency on imported food products.

Distributing food grains to farmers of Imphal East, Imphal West, Thoubal and Bishnupur districts through its district branch offices in a function held at the office of AMUCO at Kwakeithel, KT Rahman said that Manipur used to produce food grains abundantly and adequately in the past. Unfortunately, the state has now become

dependant on imported food grains for its survival.

The Nupilal clearly showed how the Manipuris produced their own foods abundantly. Only if the state government and the Agriculture Department took up necessary actions and measures in time, the present situation of the state could have been avoided, he said.

Unsatisfied with the attitude of the department, he said that the Director of Agriculture Department refused to give grains for farming to AMUCO saying there were no food grains even though they had the approval of the concerned Minister.

Source : Hueiyen News Service

New herbal tea launched by Sui Generis

Imphal, November 28 2011 : A new herbal tea made of lemon grass (*Cymbopogon citrates*) was launched by Sui Generis Foundation, Kwakeithel. Founded by Keisham Ragesh, Sui Generis has been actively working on promotion Lemongrass in the state. It took up cultivation and extraction of oil. Now forayed into consumer market with launching of leman grass based herbal tea.

Marketing manager claimed that there is already a huge demand and to be able to meet it, no. of farmers are also grooming up. Lemon grass is claimed to contain no caffeine and also helps in improving digestion, relieve flatulence and stomach pain.

Source: Poknapham



Lemon grass

Meeting with a Star: N. Rolendo



Tomba

“Successful mushroom cultivation requires in-depth knowledge of life cycle of mushroom according to varieties and climate.”

Ningombam Rolendo, popularly known as Tomba, is a one man army who built one of the most successful mushroom farms, Jamini Mushroom, in its true business sense. Smart, young, techno-savvy, practical and ever-smiling Tomba knows the nuance of business. He further expands to explore into other food businesses.

1. *AgriManipur*: When and how was the mushroom farm established?

Rolendo (R): When I appeared for class X exam in 1998, my cousin brother Mr. Ningthemjao who was an agriculture officer introduced to the field of mushroom cultivation. He was the source for inspiration for me. In the same year in august, I started with 10 bags in kitchen (which was used as kitchen before). Then after a month, it was tripled i.e 30 bags. This gave me confidence to strike for a larger experiment. With a vision in mind, I registered for a provisional registration during an entrepreneurship course organized by All Manipur Entrepreneurs’ Association (AMEA) in nov 1998. After two years I got permanent registration. My farm, Jamini Mushroom, has gradually scaled up and today I

have a capacity to cultivate 2000 mushroom beds at a time.

2. *AgriManipur*: What attracts you to take mushroom cultivation as your profession?

R: Since Manipur is predominantly a rice growing place, huge amount of waste is generated in the form of straw. Rice straw is a principal substrate for mushroom cultivation. Moreover, it has a low break even point and the profit margin is comparatively high. These factors make mushroom cultivation a viable business proposition. These are some but critical reasons I took up mushroom cultivation as my profession.

3. *AgriManipur*: What may

be the reasons your business survives for a long period of time when many other perished?

R: Successful mushroom cultivation requires in-depth knowledge of life cycle of mushroom according to varieties and climate. I referred to number of references and books to gain knowledge regarding mushroom cultivation technology. In fact, we need to analyse habitat and growing technology for every type of mushroom. I also have my own spawn production unit. These probably could be some of the reasons I could face challenges.

4. *AgriManipur*: We are hoping that your profession is beneficial to you. Would you

Tomba’s transformation



Old mushroom house



New mushroom house



give a brief picture of your revenue and profit?

R: I can earn Rs. 3.5 to 4.5 lakh per annum with a profit of minimum Rs15000 / month.

5. *AgriManipur*: As a farmer and businessman what kind of difficulties were faced/ are facing? Technical, financial and moral?

R: As a grower/cultivator, I face both financial as well as technical problems. Manipur climate has changed drastically over past few years. Climatic condition is a major factor that influences mushroom cultivation. Due to the sharp increase in temperature, cultivation technology should also be changed. Lack of credit, when we badly need, not only disturbs the business but also morale.

6. *AgriManipur*: What kind of support system (govt policies and program) is needed for the welfare of progressive farmers/ entrepreneurs?

R: As I mentioned before, mushroom are susceptible to slight change in environment and may seriously affects its life cycle. Therefore, utmost care should be taken to protect the environment. This calls for application of advanced technology to enable to create a conducive environment. This realise this objective, high amount of investment is required. Financial assistance from govt may be boon to mushroom farmers.

7. *AgriManipur* What in your opinion is the future of mushroom farming and its business in the state?

R: Mass cultivation would not be possible due to above factors. But when there is advanced technology to manipulate the environment and cold chain for distribution and marketing, here is a hope for large scale cultivation.

8. *AgriManipur*: You might also agree that today's youth are not interested very much in entrepreneurship and hard earned profession but more prone to short route of earning money. What, in your opinion, are required to reverse this trend?

R: To the young pillars of the society, I want to say that "Let's wake up. It's time to wake up and compete the world. We are far lacking behind in development. Let's be patient and bring a work culture in today's youth."

Dear farmers, food processors, nutritionist, ...torchbearers of Manipur

Do you have stories to share?

If yes, please feel free to write. Your success stories or setback centered around agriculture, food and nutrition are most welcome no matter how big or small. If required we will try to solve through our experts' network. You can write in any languages. We will translate and publish. Be a part of Agri movement.

COOOONECT

Hope this will connect you with useful information you are longing for. This information hub intends to help you in advancing your enterprises/ business making use of it.

SFAC is a focused financial institution established by govt of India in the backdrop of Finance minister 1992-93 budget speech for “bringing about and facilitating a farm-focus growth through new ventures in agro-based industries”. The core objectives of SFAC are on “increased production and productivity, value addition, provision of efficient linkages between producers and consumers”.



Work Scope

- The Schematic Pattern of Assistance from SFAC, out of GOI grants-in-aid for promotion of value addition in the hands of farmers, through setting up part-processing, Semi-processing and full-processing facilities, through the setting up of Agri-Business ventures all over the country mostly in collaboration with the private sector. and active corporation of commercial banks.
- SFAC also provides to agri-business projects involving value addition in the hands of the farmers.
- Horticulture Mission For North East And Himalayan States (HMNEH) on behalf of the Department of Agriculture & Cooperation.

“As an extended arm of Central SFAC, under the same pattern, the Dept. of Agriculture, Manipur as the **Nodal Administrative Department** has set up Manipur Small Farmers’ Agri-Business Consortium (Manipur SFAC) by registering under the Manipur Societies Registration Act, 1989 on 18.11.2000. The Director Agriculture Manipur functions as ex-officio Managing Director of Manipur SFAC.”

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Source: www.sfacindia.com, www.manipursfac.com

Call for articles

- > Are you anxious of transforming the agri and food policies?
- > Do you have the words that can touch the hearts of denizens?
- > Do you have path-breaking ideas that can change the world?

If yes, why to wait any longer .

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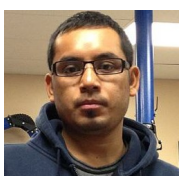
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Wine making



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