

**Carbon incentive for physical activity:
Conceptualizing clean development mechanism for food energy**

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ABSTRACT

The basic fact is that intense practitioners of yoga consume food only once a day while moderate practitioners of yoga consume food twice a day. With the normal consumption being around three times on a given day, the economic benefit or the reduction in food consumption due to yoga practice is two meals per person per day for intense practitioner and the same would be one meal per person per day for moderate practitioner. In addition, the economic benefit includes increase in wellbeing & consciousness, and decrease in cost of non-communicable diseases. The paper analyses the food and water consumption, excessive consumption, food taxes like fat tax and brings out the business behaviour of tickling food consumption. In addition to taxing and regulating the excessive consumption & the tickling behaviour, it explores the preventive best practices that reinforce natural human ability of self-control over food consumption. It identifies the practices where there is purposeful or consequential reduction in food consumption, proposes clean practice, suggests accounting for savings & carbon incentive, and discusses the finance and policy options in developed and developing countries. The best practice also meets some of the objectives of health, education, environment, culture & sports, food and finance, and therefore seeks finance allocation from corresponding ministries to support the carbon incentive work. As an alternative, the human capability developed could be measured under capability approach for creation of human development incentive. With the efforts to increase physical activity by subsidy proving to be less effective and with the taxes preventing consumption but not reducing temptation in short run, the paper considers embedding the best practice in the education to bring the habit of physical activity. Evaluating the practice for optimizing food consumption may operationalize a wellbeing practice, stimulate economic growth, and may lead to completeness in conserving all forms of energy and to completeness in charging of food taxes.

Keywords: Yoga, reduction in food consumption, Tickle tax, obesity and Human development.

Back ground

At micro economic level, there are two things that consume energy on the road – first are automobiles and the second are human beings. We have identified some of clean technologies for automobiles and for factories in manufacturing sector, and this is an effort to bring out services sector activities that reduce/optimize food consumption i.e., clean technology for food energy.

At Macro-economic level, projections forecast that the world population may increase to 9 billion by 2050 and that there will be massive additional deforestation. Adding to the above, there will be 3 billion new middle class who will demand more resources including food. This paper analyses possible reduction in food consumption by at least *one meal/person/day* (assuming 3 meals a day). Decoupling of growth practices is necessary to prevent the less useful activities like the overeating and weight loss in the society.

The cost of not having clean practices includes obesity and other non-communicable diseases in both developed and developing countries.

Taxes & consumption

FOOD CONSUMPTION = CONSUMPTION DUE TO HUNGER & THIRST

+ CONSUMPTION DUE TO DESIRE FOR CONSUMPTION

Normal consumption means the quantity of food consumption for not being hungry. This depends on the various factors including physical activity, growth and climatic conditions. According to FAO Human energy requirements is the amount of food energy needed to balance energy expenditure in order to maintain body size, body composition and a level of necessary and desirable physical activity consistent with long-term good health. This includes the energy needed for the optimal growth and development of children, for the deposition of tissues during pregnancy, and for the secretion of milk during lactation consistent with the good health of mother and child¹.

Each food item, by nature, has a unique taste appeal - a reason for them being liked, produced and consumed. Some of the food items may have strong appeal to an individual that they are consumed in quantities that are above the normal requirements of the body. In those cases, the excess consumption could be classified as consumption out of desire.

Consumption arising out of desire can further be segregated

CONSUMPTION DUE TO DESIRE FOR CONSUMPTION = PRODUCTS WITH VERY STRONG APPEAL TO SENSES AND WITH NO FOOD VALUE

+

MODERATE STIMULANTS THAT ARE FOOD OR PART OF FOOD

FOOD VALUE INDICATES THAT THE PRODUCT IS CAPABLE OF SATISFYING HUNGER, THIRST OR BOTH.

Products with strong appeal to senses and with no food value

Some products have stimulants or taste with strong appeal to the senses that, in many cases, the brain is unable to control their habituation and acceptance. Products that fall under this category, for example tobacco, alcohol, drugs, etc., are never consumed for hunger/thirst. The activating event for the consumption of such products is purely desire or consuming experience that could be classified as addiction. Pure stimulants or tastes are very few in number, and consumers are prepared to pay expensive price for the product despite harmful effects. The effect of stimulants or taste cannot be offset by physical exercise. In the absence of high end medicine, the best way to prevent the harm is not to consume such products.

There are few exceptions to the above general rule.

- Alcohol is not a stimulant and it also has calorie value that can be counted towards daily consumption limits. However alcohol is not consumed to quench thirst and are not considered as a part of food system¹.
- Certain stimulants like Coffee latte meets hunger reasons as well.

As the above products have no food value and can cause harmful effects, governments around the world discourage their purchase by taxing them. The tax, as an implicit health insurance

premium², would fund the health care costs as recovery through medical treatment/rehabilitation is the only option.

Products with moderate stimulants or taste appeal

These are food products that are tastier because of nature or ingredients like cheese, butter, sugar, salt etc. In market economy, there are cases where individuals/entities research and accumulate information about the products that tickle the temptation for consumption in larger quantities, and build food products that are tastier. For example high salt content in the products like salted peanuts/biscuits/ready to eat foods in restaurants & fast food chains or sugar in products like bag of candies, caramelised peanuts, pudding, soft drinks etc. In addition to natural products, there are engineered products like Ajinomoto (Mono Sodium glutamate) that improve the consumption experience and are used to boost consumption.

The line between actual need and excessive consumption is subtle and it differs from one person to another. In general, a consumer arriving at the shelf in a shop may choose soft drinks for water if the prices of the products are same or almost the same as he would be tempted by the sugary taste apart from quenching the thirst. Similarly, a person while hungry may choose big portions of tastier food options. Even though the *activating event* is normal hunger/thirst, people may end up consuming more food or unhealthy food if the decisions made are out of the desire for consumption, unless they are within his daily nutritional requirement.

In addition to above, food products are also consumed for purely desire for consumption say, snacking while watching television or a movie that may also result in excessive consumption. Irrespective of the activating event, any excess food consumed, if not burned by physical activity, may be stored in the body as fat. The habit if continues for a long time results in person becoming over weight. Unlike the case of strong stimulants, the health problem is function of both physical activity and consumption where consuming food is indispensable irrespective of health condition.

Responses to reduce overeating

Similar to the tobacco tax model governments have introduced tax on food. The main difficulty is to cover all the food items and to classify whether a consumption is normal consumption or otherwise. As a result governments have started by taxing the nutrients that cause fat accumulation.

1. Taxation

1. Beverage tax/ soda tax has been introduced in the USA³.
2. Fat tax, first introduced in Denmark, covers excessive saturated fat in meat, dairy products, animal fat, edible oil, margarine, spreadable and in other foods⁴. The tax was withdrawn within a year of introduction.

The fat tax collections were used to subsidize physical activity and exercise equipment. The economic instruments were successful on the consumption front than on the expenditure front (i.e.) the effort was successful in curbing fat consumption while being less successful in improving on the physical activity. The research also concluded that physical activity program should be targeted against specific set of population like children, immigrants, single mother and

others, and the economic instruments should be verified for the actual effects of reducing obesity or average weight³.

2. Loyalty-Points scheme

In the US the presidentschallenge.org promotes physical activities and rewards active life. Similarly in the UK, the Government has planned to launch Points4 life scheme under which physical activities will be rewarded with points that can be exchanged in stores for food. The project is still in review stage and the pilot may be launched soon where the rewards are passed on after verification of the physical activity. The project is delayed because the big retailers are yet agree on the terms of operation of this project.

3. Other incentive schemes in different countries include Fruit & vegetable subsidy, child fitness tax credit, public transit tax credit, Sporting equipment tax credit, subsidised physical activity program, Income transfer healthy food, Income transfer physical activity³. All the programs discourage fat & sugar consumption, and encourage physical activity and consumption of fruits & vegetables.

The Problem

- (1) The price increase stops people from buying high fat food or sugary drink in the short run. The increase acts as control mechanism where consumers are required to pay not only for the product but also for the health care cost arising out of consumption of that product. People still have to understand temptation and gain self-control over food consumption. All the economic instruments above are the points and lines within the bandwidth of consumption of goods for hunger and desire with government/health authority trying to reduce the sedentary lifestyle and to increase physical activity to burn the excess calories consumed.
- (2) In developed countries there is huge infrastructure to capture all the data regarding products sold for the purpose of charging fat taxes. After fat tax the Danish government was contemplating Chocolate and sugar tax. In America there is discussion on soda tax. There are products that have direct impact of accumulation of fats like saturated fat & sugars. These are taxed under fat tax & sugar tax legislation respectively. In addition to the above, there are product additives like sugar, salt and other products that are added or added in excess quantities than normal, as the case may be, to stimulate consumption. There are no taxes on such business behaviour.

Understanding temptation

Departing from the existing model of taxing stimulants, (smoke and alcohol), the focus of economic instruments can be to control/moderate the activating event i.e. hunger, thirst and desire for food. In case of food energy, the energy balance could be maintained by burning calories with corresponding physical activity. A general assumption is that higher the physical activity higher is the appetite.

Weight management centres, Charities for health & obesity, governments and various other institutions in health help the overweight and obese. The weight loss treatment prescriptions are helpful in regularising the abnormal consumption to maintain healthy weight. In the long run, the person has to regain self- control over consumption.

Self-regulation of consumption (Best Practice)

Traditional practices like Yoga (A practice that involves disciplining the mind and body through exercises and meditation) are helpful in reinforcing the basic human capabilities including self-

control over food consumption. Yoga sutras, text for yoga practice; reads that "*by self-control on the pit of the throat one subdues hunger and thirst 3.30*" (Part 3 line 30). Yoga practitioners are taught that this is only a sign of good practice and not an end. Studies confirm that yoga could be a cure for fat accumulation.

Gaining control over hunger and thirst requires years of practice and it varies from individual to individual. The capability of self-control over food consumption is achieved in stages. Moderate practitioners initially discipline their mind in step by step process and then achieve the understanding & mastery over senses.

In food consumption the food interacts with the sensory organs & body and creates a consumption experience which may or may not be liked by an individual. The sensory consumption experiences that are experienced by **TONGUE, NOSE, EARS, EYES, SKIN** are grouped as **TASTE, SMELL, SOUND, VISUAL ATTRACTION AND TEMPERATURE** respectively.

In addition to the sensory consumption experience there are experiences of the body. For example

1. Full Stomach bliss experienced after the consumption of food in big portions.
2. Fizzy experience of sodas.
3. Special experience of the products like Monosodium Glutamate and others

Further, Food choice may also be due to influences over the mind of a particular person.

- a. Purchase of food products due to price offers which may lead to excessive consumption.
- b. Traditional practice of not wasting any food on the plate. Excessive consumption is possible if the food served generally exceeds the requirement.
- c. Loyalty points offered by big retailers may influence a decision.
- d. In case of sick people, Consumption of particular range of food items as prescribed by dietician.

One of the stages of Yoga practice is the called *Pratyahara* and in this stage the practitioner is believed to have gained mastery over the senses⁵ and have reasonable control over mind. Food consumption normally comes down as one advances in yoga practice. Studies also confirm that yoga could be a cure for fat accumulation.

1. Yoga prevents fat accumulation in the body

At physical level, it was observed that some of the yoga postures help in preventing fat accumulation in specific areas of the body. The paper -Yoga: a therapeutic approach by Nirmala N. Nayak, MD, and Kamala Shankar, MD- brings out this fact⁶.

2. Yoga reduces Basal metabolic rate.

Basal metabolism is one of the important components of human energy consumption. As per FAO, Basal metabolism comprises a series of functions that are essential for life, such as cell function and replacement; the synthesis, secretion and metabolism of enzymes and hormones to transport proteins and other substances and molecules; the maintenance of body temperature; uninterrupted work of cardiac and respiratory muscles; and brain function. The amount of energy used for basal metabolism in a period of time is called the basal metabolic rate (BMR). Depending on age and lifestyle, BMR represents 45 to 70 per cent of daily total energy expenditure, and it is determined mainly by the individual's age, gender, body size and body composition¹. — Without confirming the long term impact of yoga practice, studies have demonstrated that the practice of yoga and meditation leads to a decline in the BMR⁷.

3. Yoga improves consciousness and reduces trance like state in binge eating

People with binge eating disorder consume large amounts of food and feel lacking control over food consumption. As a result there is fat accumulation and obesity problem. According to

Heatherston and & Baumeister⁸, binge eating induces trance like state that enables an individual to escape the negative effect. With trance like state in the patients absorbing patients into the habit of excessive consumption, traditional practices like Yoga which develops consciousness and which consequentially normalises consumption could be the best option available for the overeating problem. Shane McIver, Michael McGartland and Paul O'Halloran⁹ have used both psychological and physiological factors to demonstrate that Yoga practice could be a cure for binge eating with the practice promoting conscious consumption.

Thus, Yoga could be a reasonable answer for the problem of overeating as it cultivates the habit of reasonable consumption in individuals. Considering yoga practice would add completeness to the conceptual framework for food consumption and physical activity as it controls/moderates the main activating event, hunger and thirst.

Business behaviour

Any influence other than hunger and thirst could be considered as tickling human behaviour on food consumption. The basic purpose of the food industry is to serve food to satisfy the basic need and to deliver real utility to the customer for financial rewards. In this process, at any point of time, if the business tickles consumer behaviour of food and water consumption, then such behaviour is to be regulated with appropriate taxes and with non-monetary measures. Tickle tax could be levied on all business or other third party induced consumption. The tax would be applicable to readymade food products and will not affect basic food items.

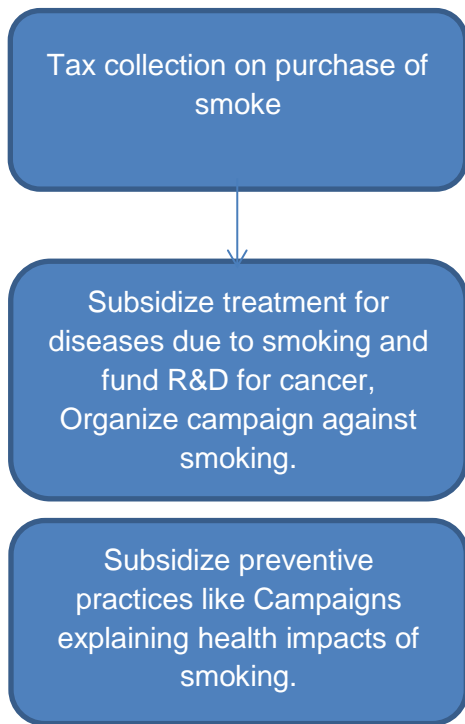
*Food taxes = Tax on products that leaves unhealthy imprint or
Causes fat accumulation (Fat tax)*

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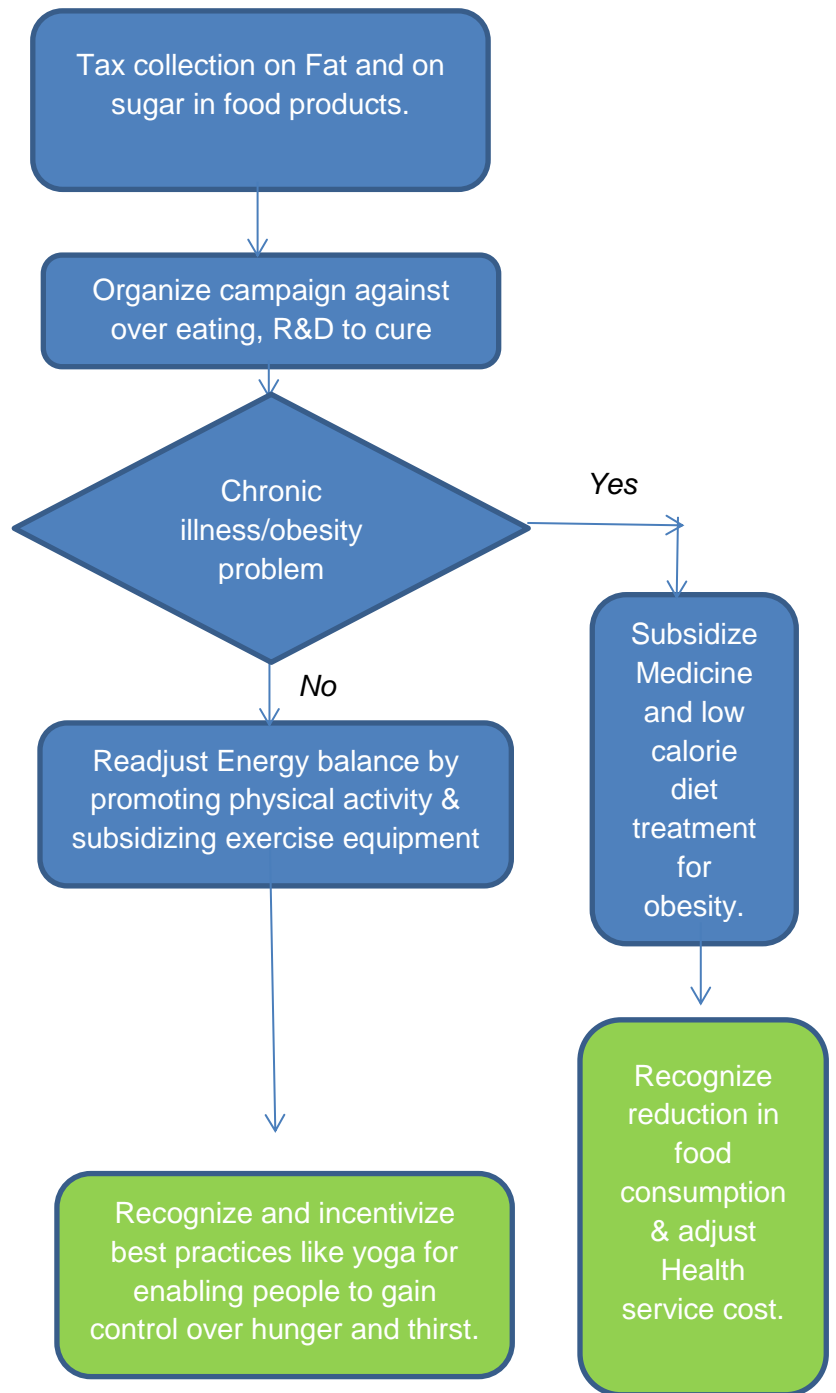
*Tax on business behaviour that tickles consumption
(Tickle tax- Proposed)*

- (1) The fat taxes and sugar tax are levied to stop consumption of products that have high saturated fat and high sugar respectively. These products are taxed as these causes fat accumulation in the body.
- (2) Tickle tax would cover the behaviour that causes excessive consumption. The business behaviour in question can be identified by observation or by the reports of cause and effect. The behaviour here has wide connotation it includes goods, services, pricing, loyalty points program, indulgence facility and all other things except for serving food and water. For example the high salt content in cheese may be construed as manifestation of behaviour of tickling excessive consumption while the cheese may be taxed (fat tax) for the fat content. As a result, the product may be liable under fat tax and tickle tax. The basic difficulty is heterogeneous nature of food items and determining the nature of inclusion of the food item in the final product. The general rules to identify the tickled product are as follows.
 - a. The tickled product is identified by the additive that tickles the consumption for example cashew nuts are identified as salted cashew nuts after processing.
 - b. The product is said to be tickled if the manufacturers give a new name to the product for example Sugar coated corn flakes sold by Kellogg Company is identified as Frosties.
 - c. Inclusion of additives.
 - d. In case of pre-packaged food presence of salt and sugar in excess of normal quantity would be construed as tickling. The normal quantity of salt or sugar may be fixed by the regulator.

Tax on addictive products-Cigarettes



Tax on Food



Points discussed for health economic valuation of services.

General food laws are responsible for the safe food and they ban a food item only if it is injurious to health. Excessive consumption only leads to the state of obesity, a reason for cardio vascular diseases, if there is no corresponding burning of fat by physical activity. The products that pass the test of causing injury under general food consumption tax laws could be covered under the new law for increasing consumption by enhancing consumption experience. Tickling would include making food options seem tastier, where presence of a product (for example added sugar or salt), convenience, sale offers, big portions of product and other factors identified from time to time may be taxed.

Examples of tickling factors are given below

Particulars	Tickling factor	Tickle tax	Fat tax
Nuts, popcorn	Munching experience	Yes	
Salted Crisps Salted biscuits	Munching experience, salty taste	Yes	
Flavoured Crisps	Munching experience, Flavours, Salt additive	Yes	
High salt in ready to make soups & pickle	Salty taste, Spicy taste	Yes	
Take away with Ajinomoto	Smell, Salty taste, Special additive effect	Yes	Yes
Soft drinks	Fizzy experience, unique product formula and Sugary taste, Chilled servings	Yes	Yes
Hot chocolate	Sweet taste and heat	Yes	Yes
Chocolates	Sweet taste, colour, Product formula	Yes	Yes
Big portions of food & drinks	Desire for Full stomach bliss	Yes	Yes
Quantity discount	Desire for Full stomach bliss / Influencing mind in decision making	Yes	Possible
Price offers	Influencing mind in decision making	Yes	Possible

- Thus tickle tax could be multidimensional. Just as the manufacturers' approach is multi-dimensional.
- Tax rates would be based on each tickling factor which would mean that higher the tickling higher would be the taxation. Tickling factors should be accumulated and taxed to bring product price to a level that reflects the product's influence.
- Tax rates for the tickling factor may be determined based on effect of the tickling factor.
- All the above listed items could be liable for another tickling factor of convenience if they are pre packed

The tickle tax proceeds can be used to fund cure for eating disorder, yoga, physical exercise and obesity cure. Food consumption tax is an attempt to identify the reason behind the problem of excessive consumption and to bring completeness to the framework of taxing the food for obesity.

The Fat and Tickle tax framework is comprehensive. It covers aspect of excessive consumption due the influence on senses, body and mind. Tax on high Salt and sugar in Hungary¹⁰ relate to excessive consumption of food due the tickling of taste sense. Taxes on influence of mind

include, for example, large soda cup bans in New York City which is a tax for tickling consumption with huge quantity offerings. A small surcharge in form of Tickle tax could also serve as an insurance premium for the health care cost and as a funding for health promotion activity like building infrastructure and financing physical activity programs. At present selective aspects of the Fat and tickle tax are being implemented across the globe.

Accounting, Financing and Policy for Carbon incentive

(Activities where there is reduction in food consumption)

1. Weight loss treatments

A Weight management centre reduces body weight and also helps an individual to manage food consumption. The centre might be eligible for carbon credits for reducing food consumption. For example, some of the weight loss treatments achieve results by prescribing reduced calorie intake for prevention of fat accumulation. From the day of the treatment the calorie consumption is around 600 k calories per day to 1600 k calories. During the Treatment period, there is carbon savings between 1900 K Cal to 900 K Cal per person per day (assuming 2500 k cal as minimum prescribed for males in the UK). *Health economic cost* of treatments within the present infrastructure requires an additional cost of advising the patients of diet and exercise plan. (Additional cost is around AUS\$9.76 to AUS\$7.30 for a kilogram of weight loss)¹¹. A carbon incentive for the savings achieved may reduce health economic cost of treatments and provide a basis to recognise carbon savings for food Energy. For this the evidence of reduction is available with National obesity observatory.

2. Yoga centres

Intense practitioners of Yoga are called Yogis and one of the characteristics of yogis is that they consume food only once a day. A Person who consumes food twice a day is generally referred to as bhogi. A structured yoga practice may reduce food consumption from three to twice a day. Assuming that normal consumption is three meals per day i.e. breakfast, lunch and dinner, in sum, the reduction in food consumption would be one meal a day in case of moderate practice and two meals a day in case of intense practice. A carbon incentive could fund the above practice in developing countries, and save tonnes of food & water to relieve the stress on agricultural production.

In a journal article “The Energies of Men” published in 1907¹², William James notes that his friend was consuming food twice a day in the initial stages of yoga practice and subsequently reduced the consumption to one time a day.

Markets & consumption

Markets and consumption consists of various factors including creation of market capabilities, mining capability/human capital, and creation of convenience that prompt the responsibility on governments and the responsibility to correct of imperfections in market structures for the purpose of financing.

a. Creation of Market Capability

In market economy, sellers get the resources of research and development, and develop the capability of products that appeal to people and provide utility. With once in a time practice of establishing products and with machineries producing the products on large scale, the current regulatory structure has to recognise the fact that the present economic incentives have created lopsided competition between man and the machine. In most cases, for perfect buying

decisions of real utility humans have to develop ability of self-control and this can only be done individually. There is little scope for quick multiplication.

Current economic incentives and legal environment protect and nurture the market capabilities while the resources like yoga coaching are limited and the skills are acquired after considerable amount of time. In developing the capability the consumer has to choose the type of freedom

- 1) One Freedom to eat what one likes, and let completely exposed to the risk of becoming obese and to risk of addiction to food products.
- 2) Freedom from the excessive temptation. Being able to make better rational choice in the case of food.

Similar questions were raised when literacy programmes, and there the acceptance came when people realised that such education can provide employment and other economic opportunities. Again, people are to be educated about the benefits of well-being practice. For the purpose of financing such work quantification of the Human ability of self-control under Capability approach and creation of Human development incentive is necessary. The Incentive could be funded by both Local and international agencies whose objectives are met by the program. For example, Yoga prevents obesity and other non-communicable disease like cardio vascular disease. Thus funding for prevention of non-communicable disease purposes can be allocated for yoga. Similarly other benefits could be quantified and appropriated from departments including sports, education, Human resources development and health.

b. Mining Capability /Human Capital

Governments own most of the natural resource and it leases out or permits exploitation of a resource for an income and development. In the contracts for mining of resources there would be a provision to restore the land to its original provision at the end of mining contract period. In the absence of any such regulation socially responsible companies try to put land back to its original state or else the cost of inaction falls on the society.

In high population country like India human capital is the natural resource and it is valued very less as it is available in plenty. The retail sector is largely unorganised and the governments are yet to start discussion on Fat tax or other laws similar to that of tickle tax. Tickling humans for food consumption could be construed as equivalent to that of mining natural resources. Tax could be levied where the market capability that exploits people for lack of ability of self-control. In countries where people are not even aware of the concept of self-control on food consumption, companies should take the social responsibility of spending amount equivalent to tickle tax on human development that improves consciousness factor in the society.

Thus if Coca-Cola is paying soda tax in America it can be encouraged to spend similar amount in India or in other countries under Corporate Social Responsibility as there is no Soda tax legislation but huge population as market and as benefactor. By this, the latest scientific practices that result in new regulation can be communicated and transferred to developing countries where human capital is key asset.

c. Creation of convenience

Industrialisation led to large scale automation to avoid pain of human efforts and it led to the proposition of elimination of pain in all sectors including the house hold sector- for example mechanisation of drawing water from the well or washing. Avoidance of pain of human efforts was convenience that became future value proposition. Convenience further progressed to branch out to help people avoid the process of chewing and assimilation of food by creation of processed and refined foods ready for consumption. People started losing balance with the regards to energy in the sedentary life style. Absence of physical fitness led to loss of stability of consciousness which in turn leads to loss of self-control over food consumption.

Food industry that started with serving food for basic need of hunger and thirst took additional responsibility of preparation of food that led to the wide use of additives to make products tastier. In some cases the focus food industry has moved from provisioning to stimulating the decision point of taste. Consumption for taste did well exceed energy requirement and led to accumulation of fat. Popular rehabilitation measures include pills for prevention of fat accumulation and surgery in extreme cases. In some countries where health care is provided by government, the public pays the healthcare cost while in other countries the insurer partly financed healthcare costs by spreading the risks with the young population.

There are so many market interests and variables that the operations and efforts have gone to into uncharted waters. To put it in context, the responsibility of food preparation was with the member of the family whose well-being was well connected to the well-being of the person being served. It would be considered as mental illness if the family member stimulates the demand for the sake of cooking more food.

d. Responsibility on Governments

The market mechanisms are focussed in avoidance of pain with consequences left to the people or society. Now the pain again started accumulating in form of additional health care cost on the society which now has led the government taking some responsibility of prescribing minimum physical activity, and on further pain it could regulate the market behaviour by charging FAT tax on food products. This could be similar to parent's role of stopping consumption when kids eat too much.

e. Responsibility to correct market imperfections

Every convenience leads to additional responsibility like mechanisation of drawing water from the well leads to the responsibility of using water wisely. However there is considerable amount of time in governments assuming responsibility, feeling pain and recognising the problem, confronting interests to bring regulation for irrational behaviour. Internationally the scale and speed of response depends on the capability and maturity of the governments. There are different forms of government which try to serve the needs of the people to the best extent possible while democracies exist in various stages in different countries. UK/USA have a matured democratic government while the democracy of the India is evolving. Even in the mature democracy like that of UK/USA the Royalty/Massive foundations provide the service of heading and promoting the charities to address special concerns and provide services required by the society that cannot be justified under democratic or market mechanisms. In the UK, Yoga training is provided by the charities with donations helping to build schools and hospitals in Indian villages.

Tickle tax, which is a tax on consumption arising out of desire, can fill the gap in the funding for infrastructure. Justification of yoga for normalizing food consumption and corresponding reduction in health care costs may reduce the uncertainty in the financial transactions with donations/ lottery being replaced by increased charge out rates for the practice or by more referrals for the practice. This will improve the financial variables in the financial centre and in some cases may require revisiting the existing variables.

A sample of Components in designing and securing funding

Description of funding	Matured Democracy UK	Evolving Democracy India
National lottery funding and corresponding additional funding from government for construction of Infrastructure.	Initially yoga was identified as sport and by which sports allocation from lottery allocation is made.	There is no lottery. Lottery is banned in states to prevent greed. Yoga is to be introduced in premier global education institution. Donations sought to build the infrastructure facility.
Private Yoga practice	Fees range from free classes to 13 pounds per class (normal public, London rates).	Monthly fees range from free classes to 19-28 pounds per month. (normal public, Chennai rates)
Fat tax	The tax appropriation will be made to cover the medical cost and to promote physical activity.	There is no advice to prevent fat accumulation. This can actually fund the infrastructure of physical activity.
Points 4 Life (Loyalty points scheme) – Scheme yet to become operational.	Rewards for Physical activity like running, swimming, yoga etc. Potential 62 mn people.	No Such scheme. Potential: 1.2 billion people.
Tickle tax	Proposed in this paper	Proposed in this paper

Important factors in bringing out a framework for clean practice

1. Governance frameworks to incorporate the new evidence.
 - a. Potential and Applicability of existing regulation (UNFCCC)
Excessive consumption is a global problem, and the problem is severe in developed countries and in high income countries. Under current rules, Clean Development Mechanisms (CDM) can be implemented only in developing countries. There has to be an appropriate rule change to include the efforts made in the developed countries. Thus new CDM rules could be modified to cover both food energy and mechanical energy, and will include earth's population for food energy. Since it is new, there are no Carbon Evaluators, benchmarks and administrators.
 - b. New Governance Frameworks - Procedures, Metrics, Scale and cost of administration
The current system of CDM was established for fossil fuels/mechanical energy that led to automation and energy efficiency. The strength, capacity of mechanical energy is always high when compared to food energy and it easily replaces millions of hours of human effort. The clean development technologies for the mechanical energy (fossil fuels) also produce energy with similar strength and capacity. Similarly, in case of human energy the savings will be low intensity energy. Current CDM economics treat both the intensities the same and may try to apply the same framework for measurement and validation as in case of Mechanical energy. Further, CDM for food energy involves validation of food consumption of each and every individual which means that the process is labour intensive and as a result it is more expensive under the current framework. Perfect evidence can be obtained under test condition where the students

are residents and consume food in the college hostel. In other cases, metrics are to be established based on the number of hours of training clocked by each student in the classroom. Since the carbon credit may seem low value, the credits are to be considered for large projects.

When the yoga project is being implemented nationally, the implementation would be through the nodal agency at both national level and at regional level. At present, India whose population is estimated at 1.2 billion, has through a separate ministry appointed nodal agency at both national and regional level for familiarising yoga at district level. At the moment carbon credits can be established at regional level as a starting point. The service meets the objective of Health, Education, sports, Human resource development, Food and agriculture, environment and Finance. Government co-operation in this regard is to be obtained to implement so that the government's measurement and verification infrastructure can be utilised for the verification of practice for carbon incentive purpose.

2. University research & W.H.O. classification

a) Universities have to recognise the existence of clean practice (technology) for food energy and effect of large scale promotion of clean practices are to be mapped to land use and to health care. Careful consideration is required as Yoga is also considered as a religious practice, and religious services are mapped under cultural services by departments responsible for Ecosystem and well-being studies¹³. Under the current classification the cultural services are dependent upon the Ecosystems resources and the cultures are changing fast due to depletion of natural resources that support the cultural practice. However, the yoga practice requires separate classification as there is tangible reduction in carbon due to reduction in the food consumption.

b) Current well-being requirement - Ecosystems Contributor

Instead of being supported by the ecosystem, Yoga can be classified for its contribution to the objectives of Provisioning, regulating and educational services of ecosystem services.

i) Practice of yoga reduces food consumption in individuals. Thus it contributes by reducing the demand for food consumption and can be classified as a service reducing the demand on Provisioning service.

ii) Yoga improves strength and feeling of wellness thereby contributing to well-being services. It is considered as a cure for various diseases including Asthma, obesity, anxiety, diabetes, cardiac disorders, Insomnia, Migraine etc. It reduces the stress on regulation for health.

iii) Yoga practice is considered as education for improving understanding about the body and consciousness. It is accepted across continents including America, Europe, Latin America, and Australia apart from being the basis of traditional practices in India, China and in South East Asia.

c) Future well-being requirement

With improved literacy develops the minimum rules of day to day life. Initially, for wellbeing the stress was on everyday food i.e. minimum calories and variety. Now the requirement is changing to include corresponding physical activity to keep healthy energy balance. As a result the future could bring two possible outcomes, more physical activity to burn more calories to maintain a balance of energy and weight. Second, Best practices in physical activity that gives us the ability to gain consciousness, to gain self-control over food consumption and there by optimising food consumption. This optimisation on scale could

bring large amount of savings in food consumption and improve human capital of the society.

Policy and finance options

Current policy options are to levy taxes like Fat tax, sugar tax and soda tax and use the proceeds to subsidise Physical exercise equipment for burning fat or subsidise fruit and vegetables to have healthy consumption or treat taxes as insurance premium to cover the future medical expenses.

At present, in places where there is excessive consumption, the definition of well-being is changing from just provision of food to individual to requiring corresponding physical activity to prevent fat accumulation. To that extent the Policy has become Prescriptive Policy¹⁴. The clean technology prescribed is Yoga, the performance measure is reduction in food consumption and the Economic incentives for the physical activity program will be

- a. Carbon Incentive on reduction in food consumption.
- b. Tickle tax collection to create talent pools and infrastructure.
- c. Allocation from international agencies and Local government for the Human development incentive for building skills of self-control over food consumption from departments for Health, education, NCDs, sports, Human resource development and environment.

The tickle taxes will make the process of promoting excessive consumption expensive while the carbon tax will promote clean practice.

Finance options:

1) Developed Countries

- a) Introduce fat tax and tickle tax, and appropriate proceeds for physical activity. In that case, weighted evaluation of yoga activity is to be considered for fund allocation in physical activity promotion schemes Or
- b) Carbon incentive and human resource development incentive funded by UNFCCC and local government respectively.

2) Developing Countries

- a) Provide Carbon Incentive for the clean projects executed.
- b) In countries where immediate implementation of fat taxes and tickle taxes is not feasible due to infrastructure bottlenecks, companies can be encouraged to invest in human development activity through corporate social responsibility commitments and
- c) Allocation from international aid agencies and Local government for the Human development incentive for building skills of self-control over food consumption.

Non-financial options

There is minimum uptake of physical activity through subsidies for exercise equipment and actual activity. Yoga and physical activity programs could be embedded in education.

Embedding best practices in the curriculum of Global education centres

- a. Millions of students from India, China and from other developing countries study in global education centres in countries like America, United Kingdom, France, Australia and other developed countries. The Education model in these centres still inculcate that education is to earn economic prosperity that can be used to buy well-being in terms of food, convenience and luxuries, and they prepare students according to the requirement of employers. The education system again has to change to create the understanding that both economic prosperity and well-being are actually earned through deliberate efforts. For

example, In the UK there is an allowance that students can work up to 20 hours/week to support education. Rule change can bring purposeful physical activity for at least 7-10.5 hours/week to embed the habit of earning well-being while learning for work. This will also bring serious students to the education centres.

The practice if implemented at overseas education centres can have very high impact. *For example*, India is a country of one billion with 70% of the population living in villages and there are not many yoga teachers in India to teach them all. USA and UK has considerable amount of yoga practitioners who could join the program of improving Yoga practice in developing countries. At the moment there are nearly 103,000 Indians (2010-11) studying in USA while the number is 19,205 for the United Kingdom¹⁵. These students are top talent from the families including politicians, businessmen, technocrats, village landlords and others with considerable influence of at least effecting programs in a village or town. Reaching out to these people will mean reaching out to 103000+19,205 villages of India and creation of wellbeing ambassadors.

b. Embedding best practices in the educational curriculum- Developing countries

A carbon incentive could fund the infrastructure needs for the practice, which could also improve the ethics, life skills and the quality of the education, a problem that forums like World Economic Forum deliberate in this weak global economic situation. Applying this to other sections of population may increase truthful behaviour, wellness and food security.

Conclusion

There are different approaches to sort out the excessive consumption. Improve self-control over consumption by empowering people, and the second is to regulate tickling behaviour of business or other third party. Improving the self-control can be done by encouraging Yoga practice, a process which requires behaviour change or embedding it in education for practice. This would also improve the availability of yoga skills for the global population,

Fat tax was implemented in Denmark and was then withdrawn. This indicates that regulation of purchasing behaviour with taxes would be ineffective, and for better results efforts could be made by recognition of a framework for food taxes by which all the factors responsible for excessive consumption is identified and taxed. The idea of tickling, that would provide a framework for food taxes, is yet to gain acceptance and become a regulation.

Recognition of yoga as a mechanism to build the self-control over food consumption would be a beginning for change in accounting for energy, clean practices, education and corresponding governance frameworks. Taxes like fat tax and tickle tax will create environment for innovation in healthy food products. The tax structures and carbon incentive will continue to be in place until we identify all the reasons for existence of weight management centres.

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