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Self Sustenance

Prologue

When anything becomes possible with the plethora of opportunities for the globalisation and infinite information on the net, everyone prefers a living for which they tend to become self sufficient. Self sustenance must be focussed rightly in such a way that it contributes to positive development of individual, society and the governance to reach global progressive development that assures humanity a sustained existence generations together in this existing scenario of natural and social calamities for the preferences of human which are not their desire but greed. This prevailing status lead to accumulation of public fund in Swiss and Euro banks from those who ought to provide the service to the common civic with the mindful spending of the same. This not only affect the personal life of the individual but the entire society due to the liberal and unjustified spending which will erode the ethical being of the future generations

> Self governance is not the government by the country on its own, making the people self sustained to bother least the government and the control on with the government having its revenue generated by its own schemes, relieving the public from taxes

too. Self sustenance makes the involved, be it the individual, the society or the governance responsible, mindful and ethical, that the designed future is attained by the involved. This bring a phenomenal swift in the economic progression reversing the values of the commodities, instil mindful application of technology for resource conservation and using the products to the fullest of their lives that the waste management, water supply and the power generation left to the responsibility of the individual sectors offering them the technical assistance to reach self sustenance. This issue describes the conceptual processes with the key areas of public service as water supply, waste management and power generation integrated to reach self sustenance and that make them free from tax and all the government department will have schemes self supporting to generate funds for them, which in turn make the work force committed and progressive.

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Self sustenance

Introduction

Self sustenance is attaining self sufficiency which is not complacent but taking the responsibility of anything and everything on own behalf and striving to get rid of the redundant to give space for

the essential. Many times the "happy go lucky" attitude is taken to be self sustenance which is really not so, self sustenance is the skills one might get taking the risk to his responsibility for which acquiring the required potentials is needed. It is the much expected quality for an individual, a society and governance which makes them realise the mistakes giving away the habit of blaming.

The most felt amenities to be provided by the governance being the water, waste water disposal, solid waste disposal and adequate electricity supply, the common civic will reach self sustenance by making them avail all these on their own. Similarly the most needed amenities with the community in poverty is to make them equipped with skills to avail their basic needs as fair monthly regular income with assured living environment for their cooperation. They then become self sustained. Who ever, they are, they will feel self sustained only if their dignity is respected and the governance is not expected to provide assistance in the form of money or materials, but the assistance and guidance to earn their need, on their own.

A self sustained society is one where every individual plans their future and get the assistance from the governance that they become

included in the schemes, and have the responsibility to repay what they got as financial assistance from the government, and to become self sustained to run the scheme on its own by generating revenue that they finally become egalitarian. Hence self sustenance is the responsibility of individual, the society and the governance that they form strategic plans to reach the set goals, and in turn remain connected to each other , and finally for not being disturbed much , the earth, the nature remains self sustained with its own putrefying capacity and the humanity remain eternal, generations together. It is not the earth to be sustained which is eternal and evolves continuously and dynamically, but the humanity.

Self Sustenance –Governance

The governance is for the common civic and it is to be made self sustained with the revenue it generates that all the services to be provided only as guidance and repayable financial assistance and certainly no free schemes which make the beneficiaries inclusive. The schemes which go as less served and insufficient for the increasing demands are the water supply, waste management and power supply and hence they need to be made self sustained. For this to happen, the modern and traditional practices are to be evaluated and the best of

both be integrated with the concept of decentralisation to the level of each utility as individual houses to commercial sectors through health care centres.

Integrated water supply and waste water treatment

The water supply could be made to meet the requirements by having the private water supply as alternate. The private water supply if drawn continuously from ground will become less saline and the minerals to an extend add to human health. The rain water harvesting carried out has given due returns that there is considerable rise in ground water and the disturbed water cycle has to be corrected for a steady flow.

The wastewater treatment must strictly be decentralised to avoid inefficient treatment at the treatment plant and which takes a long time to get purified to be disposed for the septic condition it enters. Each human centre be it industry or a commercial place or residential should have a separate septic tank and soak pits which had been conventionally used that it absorbs water quickly assimilates the waste easily which add to nutrient values and the water reaches the ground water table.

The treatment units as sedimentation, filtration and stabilisation with the common treatment plant will be replaced economically by septic tank and soak pits. The industries which use toxic chemicals are to be advised to use bio alternates that are available and if at all they use chemicals, they need to assure zero emission technologies, where they take care to the level of zero emission of toxic elements. The common effluent treatment plants with dyeing and tanning industries proved futile because of heavy volume of waste water to be treated. The small scale units, for which the common effluent treatment plants are suggested, must stick to natural dyes that they can treat the water by simple means and reuse.

The huge amount of lime they use for coagulation is the reason for bulking of sludge and the same could be effectively treated with bacillus bacteria, if they use natural dyes. The fact is to be taken with the changing minds of people that they do not want cloths which last longer with high price and less degradable, but quality cloths which serve for a fair period and degradable as the fashion and choice of colours are ever evolving, and finally settle to basic colours. Hence the natural dyes are preferred which can last without fading for this fair use period. The utility fittings are all to be provided with air mixture

and water jet that they use minimum quantity almost half the required and the aeration when it appears as the waste water make the stabilisation easier without the same becoming stale.

Solid wastes management

Solid wastes are the solid materials that are generated out of various domestic, industrial and commercial activities and considered to be of no value for retention and thrown out into the environment. But, in practice, it is not taken in its real sense and the extraordinary increase in the solid wastes not only shows the increase in population and the material usage, but also indicates the resources being used in an imprudent manner and the products being thrown out before the life time ceases.

The degradation of these materials by the natural forces takes place in its own pace taking the environmental factors such as oxygen, heat, moisture content etc favouring its stabilisation that turns the same into stable material when ultimate decomposition stage has reached. Till they reach this stage, they undergo various forms of decomposition based on the available environmental factors favouring

the decomposition and depriving anthropogenic components that work against the natural decomposition.

There is a shift of balance between these two that the materials before reaching stabilisation become stale and septic causing nuisance to the environment. The disturbing forces to natural degradation are anthropogenic and hence control of the same is possible by effective stimulus of the causative agents to be aware in helping the nature in preserving its quality.

The solid waste management encompasses the source, storage, collection, processing, transfer, treatment and disposal that every part of it reaches the safe destination that no part of it remains unattended degrading the quality of environment. The management of solid waste involves the contribution of all the stakeholders from the generators, be it a domestic unit, an industry, a hospital or a commercial establishment, that they take care of the complete stabilisation of wastes generated.

Solid waste management is best done when the handling to disposal is to the responsibility of individuals. All other approaches will

certainly prove futile for the nature of quick biodegradability, the complexity of mixed waste, the non cooperation of labours, non inclusion of the generators by ethics.

Types of solid wastes

The solid wastes are classified as domestic –the dwelling units, industrial-the manufacturing of products from various raw materials applying different technologies, commercial –theatres , shopping complexes and public – parks and street sweeping based on the sources of generation, and as decomposable, non decomposable and as combustible, non combustible based on their putrefying nature and heat value(calorific value) respectively. They can also be categorised as low hazardous (domestic), Medium hazardous (commercial and industrial wastes as toxic chemicals and heavy metals), high hazardous (as radioactive, nuclear and biomedical wastes).

The domestic wastes are usually organic in nature and require immediate attention for proper disposal. When proper care is not taken to provide the required oxygen for its putrefaction, it becomes stale and highly odorous. The wastes then become the breeding places for mosquitoes and house flies that in turn will induce diseases to

human beings and unhygienic environment difficult to control. The stray dogs, pigs and rats will multiply if the wastes accumulated are unattended and they will result in the existence of animals like snake, rats, dogs etc. due to food chain apart from they themselves become the source of disease spread.

The rag pickers are encouraged to take the recyclables and reusable from this accumulated mass in an unhygienic environment for their survival and they get affected with various different diseases from skin problems to respiratory diseases. The pharmaceutical wastes and needles thrown simply into the wastes stream are infectious and there is a danger of these materials getting back into the market.

The domestic wastes are to be paid due attention that such accumulation at the street corners will not occur and the concept of collecting and treating proved futile due to various different reasons such as mixing of wastes at source, improper storage and collection, the resale value becomes less due to the degraded quality, inadequate man power and the collection vehicles, the waste collection is not done with due care by the involved personnel and the collection frequency too is not maintained as per the design to meet efficiency.

The only solution available is the disposal at source especially for the organic wastes with the choice to go for composting or biogas generation both of which are very much feasible with the decentralised approach for each dwelling units. The conventional method of centralised solid waste management demands a suitable modification to be independent of the man power at the collection level to meet the efficacy and they with the increased awareness of health implications in handling the mixed wastes prefer various other jobs.

The industrial wastes arise from the various industrial activities and the nature of wastes depends on the manufacturing process and the product. The characterisation and the treatment process can not be generalised but specific attention is to be made to treat the wastes as it contains deleterious matter that may hinder the ecosystem in the surrounding area and to the ground water too in the long run.

Most of the industries adopt open dumping in their premises that will not be a permanent, effective solution as the space scarcity is increasing and the raw materials are decreasing. The standardisation procedures imposed quality control and effective use of resources that

large industries do take care in the generation and stabilisation of wastes. Attention is to be given to small scale industries which do not care for the wastes but only on the products.

Commercial wastes mostly include the combustible waste materials in the form of packing, card boards, paper etc and could be compressed and baled to form refuse derived fuels. The wastes that are generated in the canteen and restaurants are to be treated separately and should not get mixed up with the other wastes. The institutional wastes also come under the category of commercial wastes in all aspects and there is more scope for having a separate treatment schemes exclusively for them.

The biodegradable wastes are the wastes that are decomposable in nature and undergo constant decomposition and may be aerobic or anaerobic based on the availability of oxygen. The aerobic decomposition lead to compost that is excellent manure with great nutritive values for the plant growth.

The anaerobic decomposition leads to reduction of all the organic components with the hydrogen substitutions that lead to biogas

production. Biogas will not serve as the mean to use wastes in the long run as it is difficult to control the parameters involved for efficient biogas production. The best way is to use composting with modified volume reduction as grinding the waste and moisture extraction which will promote earlier stabilisation.

The calorific value or the heat content of particular wastes determines the combustibility and the combustible wastes mostly arise from the commercial and institutional activities. The waste are free from moisture content and can be easily compacted to reduce the volume and hence is best fit to be baled as refuse derived fuels.

The domestic wastes are considered as low hazardous as they contain some of pharmaceutical wastes, metal containers. The commercial and industrial wastes are considered to be medium hazardous as they don't bring immediate short term ill effects on the environment though their cumulative effect in the long run is severe and can not be repaired easily. The solid wastes from dyeing industries, metal plating industries are examples to this category. The hospital wastes, pharmaceutical wastes and chemical wastes are considered highly hazardous as they produce both short term and long term

detrimental effects sometimes causing holocausts too. Proper attention is to be paid to reduce these wastes and to immobilise the contents with proper technology as microencapsulation and macro encapsulation arresting the reactivity of these wastes that will extend even for millions of years.

The quantity and composition of solid waste is highly varying from among the individual dwelling units, places, regions and countries based on numerous factors as socio economic status, climatic conditions and status of environmental components like air, water and soil to take care of the degradation. The task of generalised quantification and characterisation of a particular type of waste is misguiding towards effective solid waste management and need not be concentrated further. When it is left to the individual such assessment is not necessary and they can make the scheme effective with their cooperation for the responsibility.

Characteristics

The characteristics that are of specific value to the treatability of the solid wastes are composition like paper, metal, glass etc, moisture content, particle size, density, chemical composition as carbon,

nitrogen ,sulphur etc, calorific value and biodegradability. All these characteristics vary from lot to lot, place to place and are to be evaluated at the processing stage and evaluation of these parameters doesn't help in improving the management strategies.

We shall see what has been practiced as management strategies and the relevant reasons for them failed for effectiveness.

Generation

The generation of solid wastes depends on the different activities taking place and the quantity, peak generation rate, composition and characteristics depends on various factors from socio economic to individual handing of materials. The problem arises where sufficient care is not exercised to conserve the resources and the mixing of wastes that the heavy volume of waste to be treated becomes unmanageable leaving them to reach stale condition unattended in the street corners. What ever may be the efforts taken on segregation at source, since the wastes are to be handled by the governing authorities and the concern of the owner ends up with disposing it at a collection point, there will not be sufficient efficiency to the expected level of the governing authorities spending more in awareness programmes.

Collection

The complexity of the solid wastes reaches unpredictable levels with the ever evolving consumer goods that the human force involved in collection simply handle the waste as such to take out the recyclables and when got infected with diseases, takes up a liberal system of collection which in turn affects the efficacy. The use and throw attitude made the manufacturers to use a number of non degradable toxic wrappers to attract the user that ends up with bulking of solid wastes.

The life period of the goods are very less now a days due to ever changing technology and desire of people to go for the latest in everything. This makes a wide variety of reusable and recyclables too to get in to the solid waste stream and the collection of the same by rag pickers makes the spread of solid wastes at the collection points. The man power involved too do this for the sake of mere earning and the mixed wastes make them uneasy to handle that they do not maintain frequent collection that the wastes become stale that inhibit further processing.

Transfer station

The function of the transfer station is to receive the collected materials from different collection points and prepare it ready for further processing and disposal. Here all the wastes collected are accumulated, segregated and then the type of treatment and disposal is decided for which the huge mass of segregated waste is transferred. The process of accumulation of collected at the transfer station are in completely mixed stage and the organic wastes become rotten and stale completely that makes the segregation and processing of other kinds of wastes a difficult task.

The manual labour employed for segregation and transfer too are reluctant to handle the waste and the health implications they face is really a topic of concern that has to be dealt as a separate issue in the existing scenario. Even in highly sophisticated system, where , there is complete mechanisation, it is not possible to achieve 100% efficiency due to the irrational handling at the source and storage. Not only the treatment and disposal but the designing of the solid waste management system itself depends on the decomposing nature or the stage when the solid wastes turn out to be inert.

The decomposition period a waste material takes depend on the favourable conditions prevailing and is estimated approximately to be one to two weeks for organic matter, 10-30 days for paper, 2 -5 months for cotton cloths, 10 -15 years for wood, 1 year for woollen items, 100 to 599 years for tin, aluminium and other metal items, more than one million years for plastic bags, infinite time for glass bottles.

This statistics explicitly indicates the different wastes when handled together will make the management a complex task and denotes the transfer station decreases the efficiency of the solid waste management too. The wastes as organic, combustible and non combustible, recyclable and reusable if handled separately at the source will yield quality product than those handled after segregation at the transfer station.

Processing

The wastes segregated as organic, inorganic, combustible and non combustible are processed further to derive its reusability. The organic fractions undergo composting to produce manure and fermentation to produce bio gas. The inorganic will get separated as tin, iron, aluminium, glass, rubber etc and taken for further processing

and reuse. The combustible materials will be used as refused derived fuels(RDF) as such or the heat value is taken up for electricity generation. The non combustibles along with the residues will fill up the low lying areas as land fills. Though processing and treatment sounds promising, the conditions are to the theoretical, ideal situation controlled by several different parameters which seldom exists in the practical situation that in majority of the cases that the processing and treatment yield poor quality products which sometimes worsen the situation that the open dumping serves better than this. Burning a small amount of combustible waste in the dwelling or commercial units with different pacing do not damage the environment as the dispersion in the atmosphere will take care of the same. The burning will be dangerous in the air pollution aspects, only if it is on large scale or from different units at a time.

Disposal

The wastes generated out of processing which are almost inert along with the construction and demolition wastes and street sweepings find their destination as land fills in low lying areas. The land fills are really problematic in the existing situation as the organic fraction also find their way into the waste stream and their

decomposition in the uncontrolled natural environment results in a number of toxic products and heavy metals buried as such in the ground causing a lot of short term and long term ill effects. The exponential consumption of raw materials for the manufacturing puts a heavy burden that can not be met with available resources, necessitates the need to implement resources conservation and alternate materials for production.

Having this issue a burning problem with direct impact on the economy, wasting the resources at the production and at the disposal level is to be checked to preserve the resources for future generation. The quantification of different types of wastes not only indicates how much waste is to be handled but how much materials are wasted that otherwise could have been found their place in circulation till their life cycle ends and the decay period of the every materials indicate if their quality is retained without getting mixed in the complex waste stream how much of raw materials would have been reused.

Holistic, Decentralised Solid waste management

The details and discussion as above, indicates a need of complete change in the view on the solid waste management schemes. The stake

holders who take part in the system are the public, the man power engaged in collection, the administrative sector that controls the waste handling and the governing sector that takes the responsibility of policy making in the waste handling to improve efficiency and managing the funds.

The solid waste management is the only waste management that could generate a lot of revenue and keeps the environment clean and every stake holders have a due role in the management of solid waste and the major responsibility lies not with the government but with the public. The organic wastes generated are the problem causing due to its decaying nature and the domestic sector is its major contributors.

The organic wastes generated at the canteens and restaurants and other commercial places assume the next place. When this particular part is taken care of, the rest will be done with much ease. There must be a decision from the governing authorities not to handle the organic fraction and are to be taken care of by individual units. The composting could be done at every dwelling unit and the compost be reused or given for public parking as per their wish.

All the other wastes will be collected by the appointed vendors who will take them for a standardised rates and the revenue will make them to collect the same to reach the waste handling stream. If this is done, the waste management will not take a major share from the government funding and spent without meeting the purpose. The attitude of wasting the food materials will have a check that in turn saves and the system will function without spending much but in a regularised way. We should make them feel the difficulties on their own and sharing the responsibility due to them is the solution for the solid waste management issues. No common facility will meet the purpose as the involvement to make it a successful strategy in spite of heavy fiscal investment is missing form every stake holder.

The freedom of democracy is to make every one responsible and not to make every one to put the burden on others. The governance is for regulating the system to assure peaceful living and not to take the responsibility of assuring peaceful living on it all together. As the responsibility then is for others there is no ethical involvement and cooperation that the huge sum of money that have been spent long time in procuring the containers and vehicles becomes a waste without serving the purpose.

Energy flow

Because energy is strictly conserved and is also locally conserved (wherever it can be confined), it is important to remember that by the definition of energy the transfer of energy between the system and adjacent regions is work. Thus in any open system which describes the processes within an environment under practical conditions involves the total energy transfer at any instant during the process could be the sum of work done, the heat evolved and the energy added by any adjoining process. Any system be it physical, chemical or biological possess energy to perform a process and the work done to make the process complete will never be equivalent to the total energy possessed by the system as the processes forcing the system are always dynamic and involves energy transfer in many different ways to reach equilibrium.

Energy resources are the body within which the energy is stored. It could be conventional non renewable energy resources as coal, petroleum products and non conventional, renewable energy resources as water, wind, light, geothermal, ocean thermal power etc. The heat content bonded into the structure of the source gets

liberated as heat into the environment when the energy is exhausted to do a work. And this heat liberated into the environment plays vital role in temperature rise and climate change.

Energy harvesting

Energy is the capacity of the physical system to do work. It exists in different forms as kinetic, potential, gravitational, light, electrical and electromagnetic energy etc. Energy is the thermal equivalent of any physical system which is used up when work is done and hence the heat evolved out of doing any work represents the energy required to do the work.

As evidenced from this, the heat is the vital component evolved out of any process in the universe be it natural or anthropogenic. The laws of thermodynamics deals with the different forms in which the energy and mass maintains a balance in the physical system when executing work. The law of thermodynamics underlies the definition of temperature. The first law of thermodynamics which mandates the conservation of energy states that heat is a form of energy transfer. The second law of thermodynamics states that the entropy of an isolated macroscopic system never decreases. The motive power work

of a system is then the transfer of heat form a hot to cold body which proves the application of same for trapping energy to moving vehicles, roof tops to serve as source of power. The third law of thermodynamics, which concerns the entropy of a perfect crystal at absolute zero temperature, and implies that it is impossible to cool a system all the way to exactly the absolute zero. This shows that matter it self is heat that we can always make heat to be used as energy, with suitable conversion.

The law of conservation of energy is an empirical law of physics. It states that the total amount of energy in an isolated system remains constant over time (is said to be *conserved* over time). A consequence of this law is that energy can neither be created nor destroyed; it can only be transformed from one state to another. The only thing that can happen to energy in a closed system is that it can change form, for instance chemical energy can become thermal energy. The interpretation of all these law reveals energy remains every where in some form and can be conserved in suitable media, extracted when required and it is possible to cool a system by trapping the heat energy. The daunting task of climate change due to global warming is to be viewed with the carbon sink in the atmosphere as reservoir to use the

heat as energy that we get uninterrupted charging of battery thus facing the problem of global warming constructively.

Solar power

Earth's land surface, oceans and atmosphere absorb solar radiation, and this raises their temperature. Warm air containing evaporated water from the oceans rises, causing atmospheric circulation or convection. When the air reaches a high altitude, where the temperature is low, water vapour condenses into clouds, which rain onto the Earth's surface, completing the water cycle. The latent heat of water condensation amplifies convection, producing atmospheric phenomena such as wind, cyclones and anti-cyclones. Sunlight absorbed by the oceans and land masses keeps the surface at an average temperature of 14°C. By photosynthesis green plants convert solar energy into chemical energy, which produces food, wood and the biomass from which fossil fuels are derived.

The total solar energy absorbed by Earth's atmosphere, oceans and land masses is approximately 3,850,000 exajoules (EJ) per year. In 2002, this was more energy in one hour than the world used in one year. Photosynthesis captures approximately 3,000 EJ per year in

biomass. The amount of solar energy reaching the surface of the planet is so vast that in one year it is about twice as much as will ever be obtained from all of the Earth's non-renewable resources of coal, oil, natural gas, and mined uranium combined.

One of the threatening issues facing the world today is power crisis and it is very difficult of find a solution for the same and we adapt several management strategies to conserve energy reserves. For the increase of sophistication and standard of life due to globalisation, we can not go back to the ancient civilisation where we use electricity only for lighting and ventilation at night and with the architecture and orientation we got enough natural day lighting and ventilation. But since now, the concepts on buildings have changed much that every one wish to get separated and protected from the intervention of others, the buildings are constructed to have artificial lighting and ventilation even during the day time and the abnormal increase in global temperature demands air-conditioning not only in simple living rooms, but the entire shopping malls in developed countries. It is unimaginable the volume of green house gases emitted and in spite of stringent measures to curtail green house gas emission , they continue to rise the temperature as they are all related to human sophistication

which is the goal of every human to indulge in comfort that they wont compromise.

Planting trees can curb the carbon to an extent but the rate at which the plants take carbon matters much and we do not concentrate on the variety of the trees that grow faster and convert carbon but which will live for a longer time. This strategy to be adopted mindfully, the abnormal increase of global temperature affects the behaviour of the solar spectrum too and we need to concentrate on the basic phenomena by which the excess heat can be used to produce electricity as it is the flow of electric charge, draws the excess heat from the atmosphere for ionising and converts the heat to useful electricity. The energy available from the sun light be low, medium and high , we were able to get solar energy with photo electric effect where in the initial stage of its invention for the atmosphere to be clear the photo electric effect alone finds the way to get electricity, and which needed a large surface area coated with cuprous oxide or silicon and made is uneconomical and people found the same to be not feasible for regular power supply. But now due to the upper atmosphere loaded with lot of dust particles causing particle light interaction and giving rise to more of photons, which interact by pair production for

the high energy phenomena, presenting readily available sources as heat to be transferred to a media for conversion in to electricity.

We don't need huge photo voltaic cells, large solar panels but a simple wafer of heat transfer material which could transfer heat to be converted into energy. The heat transfer is fast with conduction, convection and radiation and we can derive maximum amount of heat needed to produce sufficient energy to meet the needs of whole community as the solar energy mass reaching the earth is huge. With this we can even run the vehicles without fuel but simply by electricity which reduces the fuel cost and serves as an alternate to them. The cost of the vehicles can be reduced and every one can dream to have a highly sophisticated car where ever they wish to go, with the roof top fitted with the wafer that produces electricity continuously. Season is not a constraint as of now, as the atmospheric temperature even in the colder region will not be a constraint for the global warming.

The global warming as of now is the source to produce electricity and since the heat is converted into electricity, the temperature gets reduced and the electricity on its usage will be dissipated much and will not add to global temperature further. The quick yielding plants as

plantain and coconut planted along the road sides will be adding revenue to the governance and for the people too that they wilfully maintain them and they yield within a short time and the involved gets encouragement and further inclusion. The amount of carbon in the atmosphere too will then reduce considerably as they get absorbed by plants for the reduction in temperature. We hence reduce the heat and the source, finally the earth reaches the status to experience the green house effect only to keep the temperature comfortable and consistent for a long time.

Sun mainly contains hydrogen and helium and the atomic reaction of which produces light which travels a long way in different wavelength, frequency and energy with the interference produced by different atmospheric phenomena. The electromagnetic spectrum of light includes Radio, Micro, Terahertz, and infrared, Visible, Ultra violet, X rays, and Gamma Rays. The spectrum of light that reaches the earth includes infrared and visible light and recently the Ultra violet rays for the depletion of ozone in the upper atmosphere. The human activities have made more of chemical compounds released to atmosphere which have different dissociation properties and different specific heat conductivity at different temperature, the environment involves

several intermediate reactions before the light reaches earth and we could find light particle interaction and pair production in the atmosphere that the energy level becomes higher giving rise to formation of gamma rays which is highly reactive to human tissues and dangerous. Apart from general human activities, the nuclear activities also show traces of gamma rays in far regions from the places of such activities posing threats to a wide areas not only in the immediate vicinity but also far away.

These being the additional threats than those being felt since long time as global warming which is a consequence of green house effect, the increase in global temperature, thus the climate change is posing serious threat in altering the natural processes that we face a check for the existence of humanity for long time. The problem seems to be unsolvable, but proves to be a promising source of energy and a way to balance temperature without compromising sophistication. The nature is responsible for evolution and it has the solution too within it. The moisture of green house gases composing mainly of Carbon dioxide traps the short wave length infrared radiation that is reemitted form the earth which reacts with their components as absorption and rises the temperature. They will be radiated back to the upper

atmosphere very slowly as there will be more of green house a gas that increases the thickness of the green house reservoir and hence trap more of infrared light due to interaction and producing more heat. Though green house effect keeps the earth warmer, the enormous amount of green house gases released into the atmosphere adds to more heat that the global temperature is increasing at an alarming rate.

This excess heat in the lower atmosphere immediate to the earth can be used to produce electricity. When a vessel containing electrode and filled with carbon di oxide at temperature more than the atmospheric, the heat from the atmosphere moves to this metal container by conduction and gets absorbed into the carbon dioxide gas increasing its temperature further. The heat trapped is used to produce charged particles in the electrode that causes generation of electricity. When the temperature is lowered due to the ionisation, the surrounding heat will be conducted, keeping the flow of electricity continuous and the same could charge a battery and used for different purposes.

Conclusion

By using this technique, we can use the excess heat in the atmosphere to produce electricity thus further emission of carbon di oxide into the atmosphere will not increase the temperature. This when integrated with use of waste water for plantain tree, grass growth, not only the carbon gets to usable form but the ground water also gets replenished continuing the water cycle.

By this self sustenance scheme, the troubling sectors of governance namely water supply, drainage, and power supply will get decentralised, to include the public that they get implemented effectively for their responsibility to meet their own need and the governance could concentrate on the schemes only to guide and assist the public who wishes to come up taking the facilities. No tax to all activities will make free cash flow and every income of the society audited to the truth that there will not be any unethical activity.

The public money involved in governance is the core reason for corruption, mindless discharge of duty and non cooperation for the schemes by the public. If all the departments of the governance prepare schemes and orient the activities to be self supportive with

procedural instruments, there will be commitment by the work forces that the economic progress will multiply, ethics instilled and there is more need to cooperate fairly with every other person that we reach world peace.