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Theory

Negative Agri-Forest-Economics: Recession-Agriculture-Air (RAA)

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ABSTRACT

The purpose of this research is to explain, positive relationship in trend between Money to GDP ratio and Methane emission in %, one of the reasons behind environmental damage when economic activities are less, even related with economic situation: This research discusses role of economic sector in environmental damage for recession. The work discusses trend situation of Air pollution. Result Wrong-use of Agriculture land should be responsible for it. Policy, AJI, on Agriculture and Forest product business to maintain quality and international business, as well control over supply at domestic market.

Keywords: Economic growth; Agriculture; Environment; Forest economy

INTRODUCTION

Environment-pollution by economic recession

This research emerges discussion upon system of 'Positive-path between Economic-Deceleration/Recession and Toxic-Air/Environment', Human-made-Drought-famine (HmD): A threat to Natural-Eco-Environment-System. This research proposes ANS-vaccine and SF-forest-agriculture policy as remedies. It is related with Economic-Recession cause behind Forest-reductive-Environment, vice-versa: Forest-Destruction-Cyclic-System (FDC): A continuous Cycle of Destruction of Natural resources, hence current and future assets. It should be more applicable to economic system where Export of, Agriculture relative to Industrial goods, makes sense significantly. This research stress upon Information problem about Forest-product, as Un-finished Information problem of Exporters about Importers, on Forest-Product (Quality, Stable-Demand), put Exporters Ready-in-Advance, and, Non-Substitution between Forest and Agriculture-Land-percentage, even for World: Why and How De-Forest may move Opposite to, Industrial-Output Income of any country? It explains two broad things, Positive relation between Economic recession and air-pollution, warming, and Positive (Negative) relation between Agriculture-area and Forest- area. It also explains Problems to grow New Forest under Economic Recession. Forest product is un-processed product then one Agriculture product, which is more processed. For an example, for Wine economics, an Economic-Recession-Country can produce grape but cannot process them to Wine-business as because of lack of Domestic demand for Wine at recession country (For any purpose like growth of Industry or population, demand for agriculture and agriculture-land percentage would increase and forest area should come down, negative relation should be there (With increase in forest-depletion forest area comes down)). When Economic Recession comes, Industrial demand, first it slows down, then countries stress upon Export-of-Agriculture-commodities, so according to their expectation, change of forest land into Agriculture-land increases or forest depletion takes place. Or, this research presents "Total-Misleading-Substitutability-between Forest-land-and- Agriculture-land (MSFA)". The policy, AJI, could be an incentive for farmer protection, and change of direction of expectation of farmer. Plantation of Medicinal trees should produce more anti-bacterial air and should be very much needed for economy to work smoothly rather than lock down situation [1-6].

Use of 'Radio-Active-Elements' and Export-&-Health Risk:

Even to grow more and have price edge, to higher revenue and with same or lower labour cost, to capture World Export, in World market, high Radio-active-element used in fertilizer and animal-food, could also lead many problems, may lead to accelerate reaction to erupt inner-earth-toxic-gaseous-product in air, in addition grow of toxic- food which lead to antibody creation within any body, so possibility of any virus attack enhances, even toxic-air may carry such virus to spread. This could be seen all type of countries. Even for developed countries, with the rise in price, under world recession, such inorganic things could be used in higher amount. The situation could also lead to situation like use of Bio-chemical Atom Bomb, and start of serials of deceases.

RESEARCH METHODOLOGY

Economic-recession and environment

This research may be adding one measure for forest depletion (DEF):

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It should be because of 'Information-Problem regarding Economic Recession Demand from foreign countries Competiveness in World market'.

System-RAA and export

Economy-Growth: In such system, when economy grows, domestic Industrial demand grow, Not only demand for Agriculture product grows but also demand for Forest product also grow, various Industrial group concentrate upon Forest-Investments to meet Industrial demand, However, residential plots becomes costly so real wages should have dampening impact. Under recession, with lack of domestic-Industrial-demand, as forest products are more Non/Un-finished goods would have less demand for World because of: Information-problem-due-to- distance (IPD), to Exporters about demand for their product, keep them Ready-in-Advance as these are Raw-material so cannot be made over short time, so people concentrate more on agriculture, so cut down forest and reduces forest area with their higher expectation for World market.

Additionally with this, in economic recession, because of lack of income, people cut forest-trees to sell at either domestic or foreign market, and, however, with reduction in agriculture area because of lack of agriculture-demand as economic recession, and with Higher proportion of vacant land.

Total-area= Industrial-using-area+ Agriculture-using-area+ Forest-area+ Residential-area + Vacant land (could also have used for agriculture earlier).

Environment

This research put-forth phenomenon of feasibility of Environment problem: Air pollution because of lack of Economic Activities. Economic recession could be reason behind Environmental damage (due to Methane emission): It adds the optimal-value of Environment-Supportive-Income (ESI). This research discusses, how, "GDP-Income (Per-capita-GDP, or, 1/Money-to- GDP) <ESI_1", could also lead to environmental problem. This research is not getting elaborate the case GDP-Income (Per-capita-GDP, or, 1/Money-to-GDP) >ESI_2, due to Industrial and along agriculture waste. It adds one measure, RMEA, a relative measure on environmental cause due to Agriculture at end. USE of Money-to-GDP as Indicator of Economic-Recession: The increasing Money-to-GDP ratio shows the increasing storing of Money, cause demand constraint under imperfect market or economic recession situation in an economy because credit once created would not be able to get back because of all produced goods would not been sold (other than equilibrium). So, inverse of Money to GDP could be used in place of per-capita-income.

Ozone layer

The implication of air pollution due to methane gas emission, because, the methane emission may affect, highly negatively Ozone layer, by breaking reaction with Ozone (Frederick J et al. 1960), through breaking, AS WELL increasing global temperature, at atmosphere, due to atmospheric methane and may result various lethal deceases, including Cancer due to UV rays.

Metane-emission-and-agriculture

As the income of agriculture goes down under recession, as demand from industry also goes down, it can't meet the expenditure to fill the 'hollow-out', un-used agriculture land, so the methane gas comes out of this. The income from agriculture is not sufficient to re-fill the ground (Non-filled-up-Land: NFL), to stop methane emission, because of lack of agriculture income of farmers.

Forest-and-nel

As there would be Non-Filling-Land (NFL), Forest could not grow there even when there would be no agriculture activities. Data on NFL (Non-filled-up-Land): Though Data on NFL not available, But alternatively, If NFL would not be there, in absence of agriculture, Forest should have grown automatically, in long run system, and second, in absence of Industrial activities, Methane emission would not have grown with Economic system. Future research may opt for such information. There are many works available on the issue of Industrial growth and Environmental problem, which could depict as right tail of ESI.

Importance of 'ESI'

This work proposes the possibility of existence of ESI, for production process. The distribution of ESI should have two-tailed: It should have upper and lower-safety-limit. The economic concern is how such distribution could be enlarged with economic variables, like tax/subsidy to agriculture, and industry.

Non-linear environmental tax-structure

This research produces "Two-Tail-Environmental-Policy (TTEP)" a tax policy on middle range of income-path, as it starts ads, with the field or area of research "Environment Problem under Recession (EUR)": It adds Non-Filling-Land as the cause of Environment problem: Air pollution. Such environment-tax policy should provide incentive to both Industrial, as well as Agriculture sector to move forward. Environment problem when there is stand-still situation or no-work, lack of industrial-waste. This research explains the Positive trend relation between Money-to-GDP-ratio (proxy for recessing situation under imperfect market, per-capita GDP also can be used) and Methane emission (proxy for air pollution). This research explains the, Positive relationship between Economic-recession and Environment-problem: Environment problem with economic situation where Economic activities are less. two-tail-distribution, macro models and TTEP: While a policy may, like environmental tax when, ESI_*2*> Per-capita-GDP> ESI_*1*, which should be must when Environment degradation occur at right and left tail of distribution of gross-income, and spent the collected tax when Per-capita-GDP out of bound may impact or incorporated upon many Macroeconomic Models Policies: In most of the macro models, having right tail environment-degradation environmental tax is levied with increasing income, but when environmental degradation is distributed in two tail: as a result an agriculture base countries would circulate between recession and growth, while industrial base country could have tendency towards upward situation towards higher growth applying 'TTEP'

RESULTS AND ANALYSIS

System-analysis (Trend)

(Figures at bottom): Figure-1 reflects the positive relationship in trend between Money to GDP ratio and Methane emission in %.

The higher trend of Money to GDP reflects increasing depression situation in World under imperfect-market, and increasing Methane emission reflects Environment problem. The Figure 2 reflects the Positive relationship between agriculture land % Forest Land percent. Forest depletion grown up could be to make agricultural land, but land as agriculture-purpose should have gone down which lead to MSFA.

Ozone'-hole and global-temperature

Figure 3 describes ozone (Data on Ozone and temperature from NASA, and rest from WDI) hole of Atmosphere *vs.* Money to GDP holding. It can be seen both series are upward trend, signals, with economic recession of World, the Ozone hole also has increased. One of the reasons could be behind rise of average temperature: Figure 4 shows the trend of Money to GDP and Global Average temperature over year. It can be seen as Money-to-GDP grows; the average temperature had gone up. Such temperature ups should have negative impact upon eco-system.

Rainfall, water-resources and agriculture-production

The impact of enhance of Global temperature could be extended to rainfall and water resources. As the Normal temperature level increases, rainfall suffers and water resources get reduced, Agriculture production suffers, on the other hand sea level increases due to melt of Ice-Glacier: sea level and desert rises.

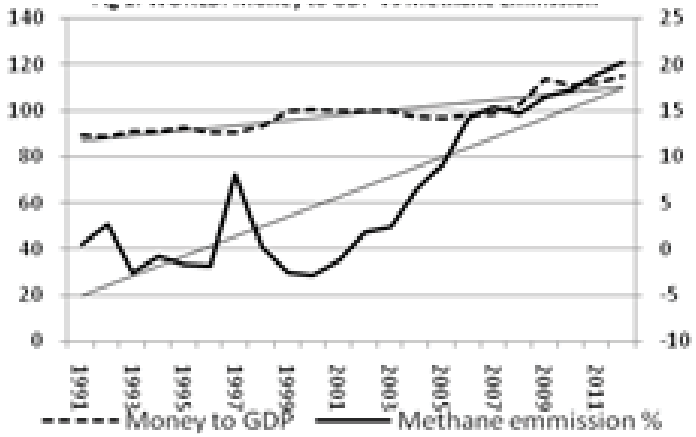


Figure 1: World: Money to GDP *vs.* methane emission.

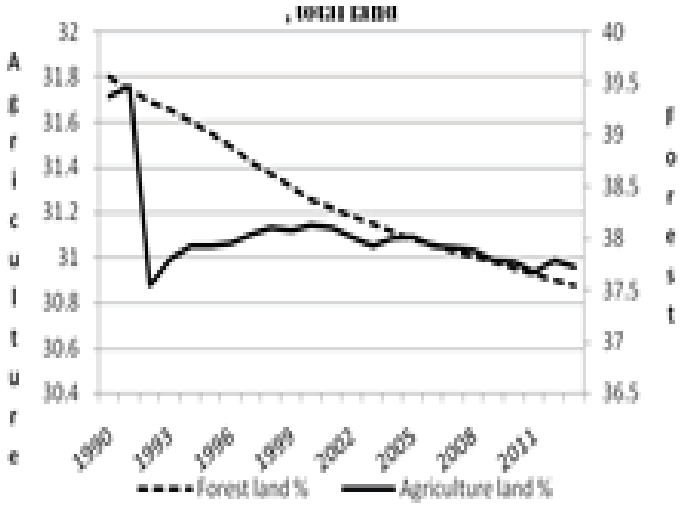


Figure 2: World: Forest land %, *vs.*, Agriculture land %.

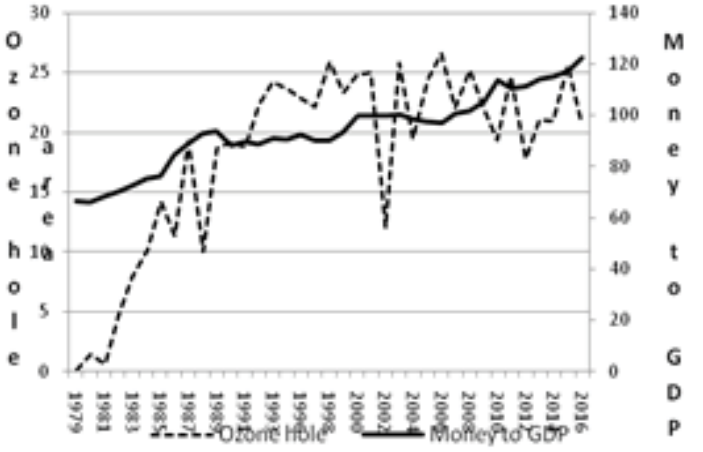


Figure 3: Ozone whole *vs.* money-to-GDP.

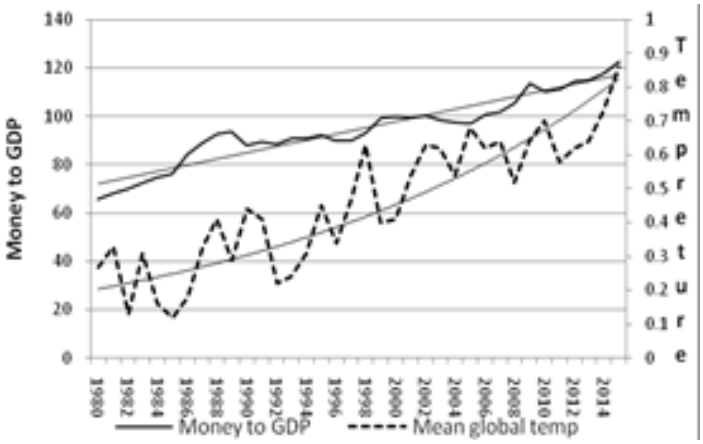
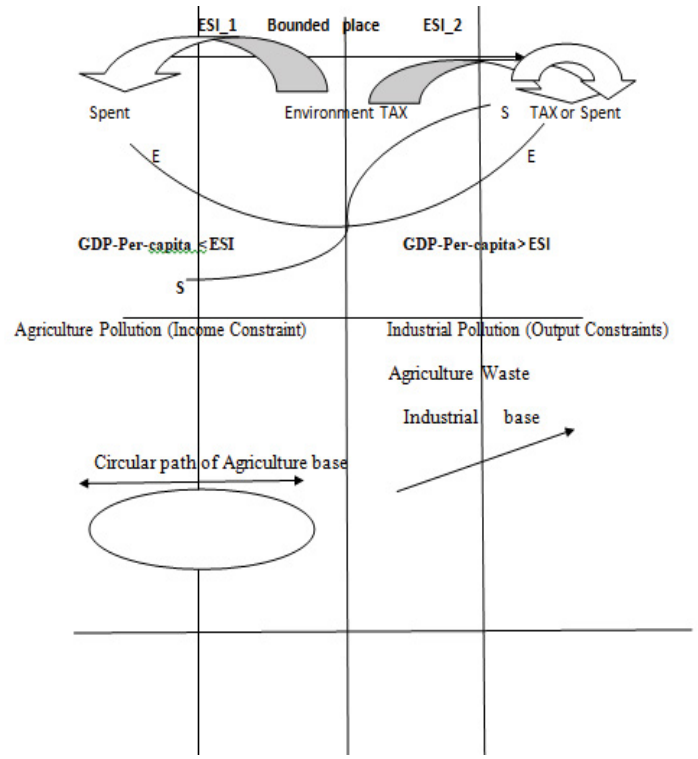


Figure 4: Global temperature *vs.* money to GDP.



SS: Economic Situation; **EE**: Environmental degradation situation due to Methane emission

Policy Implication Bounded Place: Beyond bounded place beyond which saved income should be expense on environment

Figure 5: Environment based tax and spent policy.

CONCLUSION AND POLICY

As a policy this work suggest to tax in environmental friendly situation, to spent it, while when economy is out of bound. While on Increasing Economic-Growth Environmental policies should be more biased towards Industry; Decreasing Economic-Growth, Environmental policies should be more biased towards Agriculture sector. So there should be minimum support-expenditure for agriculture sector for environmental damage while on recession. 'ESI' could be computed empirically for different countries. Another policy is family-farming or farming together by community base, which lacks in countries suffer by recession, it helps to keep back up or risk-averted money. Risk-protection of farmers could be needed, and planned agriculture-production, collection and distribution would be needed. At end, more concentration should be placed to Plantation at Urban areas. Another Policy could be effective is the use of subsidy, as base of Credit-Risk for Agriculture sector, so that Plantation, Forest tourism, Production of exportable forest product, or Forest related Business, even for education Forest-studies and management should be encouraged even under recession.

Measures on forest and agriculture:

A simple measure could be used as basis for Relative measure on 'Relative-Measure-Environment-Cause-due to Agriculture Sector', relative to Country which has Exported Highest amount of that Agriculture product per unit of land in that year: Any kind of environment change should have impact upon temperature of the region and data upon it easily available everywhere. So this measure uses change in Temperature (ΔT), similar time frame, say Jan, 2000, Jan 2001 and change in agriculture production per unit of area (ΔA). Under Null, Normally ΔT should be zero. RMEA=[exp (K1)/(1+exp (K1))] - [exp (K2)/(1+exp (K2))]. More Positive RMEA, more Environmental problem due to recession in agriculture sector. Ki: Corr (ΔT, ΔA) Correlation Coefficient=0 if Corr (ΔT, ΔA) >0, i = 1, 2. K1: Correlation Coefficient of Highest amount of Export of that Agriculture product per unit of land in that year of that highest export-country. K2: Correlation Coefficient of the country under scrutiny.

Deflationary of forest (DEF), economic measure

On basis of Relative-Price of Agriculture commodity (I), relative to Industrial price, and area of Agriculture-sector (A): This measure DEF could be such that forest depletion should be used when, $1>>DEF\geq 0$, DEF=Average on Time $[(\Delta A/A)/(\Delta I/I)]$, when $(\Delta A/A)$, $(\Delta I/I) \geq 0$. The logic behind supporting forest depletion, the forest depletion for agriculture work would be needed when there would be more forest in that case agriculture sector cannot grow as like industry so the relative price of agriculture goods should be higher, similarly when area for agriculture works is not growing by any reason: DEF $\rightarrow$ 0 whenever $(\Delta I/I) \rightarrow \infty$ and, or, $(\Delta A/A) \rightarrow 0$, when without forest depletion, Agriculture commodity relative Price would be tends to infinite.

Policy

Start with some economic recession and Forest reduction and environment degradation, Due to Forest reduction and Vacant-non-filled-land (due to start of recession), enhance methane emission and so could enhance by step, every year the ground temperature, so the Agriculture production and natural resources: forest resources, also gets hamper or cannot grow, so the real-income of people, which causes more economic recession too, so Economic recession enlarges due to Environmental cause, including vice versa.

In Recession, Forest should not be substitutable for Agriculture-land, Forest-Cum-Agriculture-Land-Farming (Agriculture-within-Forest, or, Convex-combination of Agriculture and Forest community-based-activities) should be applied: this method should be more Labour Intensive as the movement of agriculture machineries within forest should not be easy, keeping trees so more employment could be made in agriculture sector which is required for economic-recession countries. In addition, in absence of Agriculture-work, land-filling could be made automatically in presence of forest. As it could be irreversible process, so before any Forest depletion, measures should be applied upon forecast of economic variables, very-strictly.

Investment policy

First, Domestic country should concentrate upon Forest investment and open Processing unit. Even with joint collaboration with foreign country. So, Another policy could be Foreign-Forest-Investment (FFI), for those countries whoever not getting foreign investment in capital goods sector, as forest products suffer by information problem, so countries should start from foreign-forest-investment, that will encourage others. In this case directly importers would be as foreign investors. For Export purpose more stress should be given to production of Forest Product.

Agricultural job and International market (AJI)

For less developed countries, the problem comes up in export of agriculture is that the quality is not maintained, however, sell of contact and issue of Provident Fund (PF) and on basis of that savings Pension could be issued for farmer, could solve the issue If Govt could undertake initiatives to provide raw materials in kind and also various issues, could solve agrarian problem in such countries. Export-price (E)>=Domestic market price (D) >=Farmer or factor or Contract price (F). For ith farmer $PFi/ = \lambda \times (D\text{-}Fi)$; $GP/A = \theta \times (E\text{-}F) + (1\text{-}\theta) \times (D\text{-}F)$, A is unit of production, λ is proportion of Govt profit (GP) as PF fund of farmer, θ is percent of production for export. The impact of uncertainty could be reduced among farmers should be defined by price of raw materials, however, expected D would not have much impact, a farmer still may gain PF even if in future Fi rises as due to lack of demand for contract and may raise possibility to get pension, could not be worse off who are purchasing later. A higher farmer or factor price should have both positive and negative gains for any farmer: it could be beneficial for some farmers, however may not for some. If quality could be maintained then possibility of Govt to earn contract of export of agriculture rises. As per international price, the other matters would be settled backward. The forest area could be leased for such contract production. It should create, market based, centralized Agriculture and Forest business.

Use of Sanitizer for Virus

People may use of 'Alcoholic Sanitizer inside front of nose or Alcoholic Nasal Spray (ANS)' be useful to have less toxic air, as if virus could be air borne, so that (various level) alcohol could break the structure of a virus to enter body through a regular path.

Small Forest (SF)

Large tree plantation among periphery of Agriculture field land divider, it could be effective to reduce toxic air content, and would have small forest (SF) concept. This would lead to increase natural fertility of land from grounded leaf of those trees.

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