

INTRUDUCTION:

As a smallholder farming producer, I am in the position of managing and dealing wisely with the scarce resources aiming to add value to my Good to maximize the required net marginal profit, cover the costs and achieve the prospective welfare for both sides of the business process. This concept makes me motivated to create and develop some smart economical mechanisms that guarantee my business the least acceptable amount of elasticity, risk managing, and the ability to be save of market fluctuations.

In agriculture production business the best trait, from my point of view, is that we simply produce food the most demanded Good for the consumers (*inelastic demand*), the thing that makes marketing process is guaranteed and sustainable. So, initially the marketing of the agricultural Good will not be as hard as any other produced Goods marketing process.

So, I imagine if I could equip this uniquely marketed Good with an additional marketing advantages such as production diversifications and Multicropping production techniques, I do believe that I can control my production pace and marketing process at all in the favor of my profit.

From here I get the idea of diversification and varying my farm production to gain a relative advantage and an elastic supply for the competitive farm production markets.

In this study I need to investigate the impact of many or "multi-cropped" production veggie supply on the ordinary "Domestic" vegetables markets in my country Egypt. Most of the farm production in Egypt, especially, the locally produced vegetables is run randomly what makes it very vulnerable to the market fluctuations.

After defining the diversification of vegetables crop production system and its characteristics, and why I chose vegetables to supply the market carefully, I need to investigate the local vegetables Egyptian market in which it operates and the legal, social, political and cultural environment in which it exists.

Then testing the chosen vegetables crops supplied individually for the Egyptian local market and investigate the emerging results under the traditional and common local market.

and studying the chosen vegetables crops supplied simultaneously for the local vegetables market and investigating the emerging results under the same market.

Comparing the both results and scanning if there is any differences in the favor of meeting the unstable local demand with an elastic and smart supply.

THE PURPOSE

- The main purpose of this research is to adapt a smart and elastic farming production style to reach the production sustainability and to create an economical shield supporting the farming business versus the risk coming from relying on a monocropping traditional farming system.
- Liberate my production by direct marketing in addition to manage the marketing myself, the way that will curtail the middle traders and maximize the targeted profit and gain a competitive pricing system and relative advantage.
- Targeting the domestic markets to supply my production because it is unlike the exportation markets does not need any requirements standard compliance like GlobalGAP certification the thing that will liberate my business to submit to the larger GlobalGAP certified exports what gives me a foredoom decision making.
- Applying my farming knowledge in order to benefit economically, from each unit of my resources and train myself to be risk familiar and enhance my risk management abilities.
- Is to make my crops supply *elastic* in meeting the changing and varied demand, and *inelastic* for the change in the market prices.

FARMING PRODUCTION DIVERSITY (DEFINATION):-

First, to understand the term (Farming Diversification) we need to investigate the tradition farming system which has been in use for a long time to meet the increasing food demand especially in the industrialized countries since 1980. This tradition system which mainly based on the quantity produced of only a single crop from thee one unit of the agricultural land disregarding any eco-socio warnings that may appear due to this style of production.

Researchers have coined a term which refers to this style of production by (industrialized agricultural technique), and they have spotted many ecological, social, and economical disadvantages related to this production style.

Polluting water ways, creating dead zones in the oceans, destroying biodiverse habitats, releasing toxins into food chains, endangering public health via disease outbreaks and pesticides exposures, and contributing to climate warming.

All the aforementioned harms beside the social disadvantages like the fact that although the agricultural sector currently produces more than enough calories to feed humanity, one billion people remain hungry and on additional one billion have micronutrient deficiencies.

So, it is clear that the traditional industrial farming production style is no longer able to benefit humanity especially in the developing countries which are in bad need to adopt a flexible and domestic production system fits to their smallholder farmers and small scale farms and meet the various demand and customer preferences style.

Hence, thinking about another farming production technique fits the developing and ambitious for establishing a free and real democratic political regime countries like Egypt, is an essential step to gain the producers and consumers benefits and to farm sustainably in order to continue keeping the benefits without or with the least possible environmental, social, and economical costs.

So, what is the farming production diversification?(Multicropped Farming)

Simply, it is an agricultural method in planting multiple species on one piece of land either during the same season or in successive growing seasons.

This style of production is very suitable to the smallholders who want to keep successfully with their farming job.

This Multicropped production style has many environmental advantages such as decreasing crops pest susceptibility, minimizing pesticide use which could be an input cost controlling, reducing the soil erosion due to the condense tilling which may cause a soil lose by the climatic factors.

Apart from the aforementioned ecological advantages, this type of production undertakes many socioeconomic responsibilities like fair treatment of workers, supporting farm communities, and sustaining local food system.

Finally, and the most important point which we need to thoroughly investigate in this research is that the farming production diversification can prevent the economical vulnerability that could happen to the production due to crop loses (e.g, mother nature instability) and the fluctuations in the market supply and demand.

ECONOMICAL COMPARATIVE ADVENTAGE OF FOOD PRODUCTION:

To notice the main advantage of the food production, we need to investigate the following statistics taken from an IFAD study referring to the domestic demand for the fresh vegetables and fruits, compared to the annual population growth rate.

As this study shows that the annual increase in the domestic demand is estimated at 4% , representing around 500.000 tons of fresh vegetables and 370.000 tons of fresh food per annum. And annual domestic demand is calculated on the basis of an annual population growth rate of 2.1 %.

Also, the Egyptian consumer behavior in handling the fresh foods is in the early stages of a shift towards responsiveness to market demand rather than supply factor. However, overall quality is not a major issue among consumers.

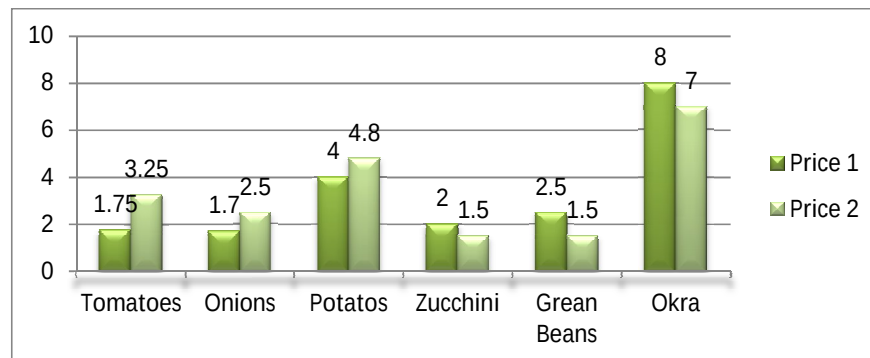


Chart showing the vegetables prices fluctuations in OBOOR wholesale market

Egyptian Ministry of Agriculture and Land Reclamation

This aforementioned information in addition to what we have been learnt in the (Microeconomics Principle Class) with Dr. Jose Vazquez about the price elasticity of demand and from this list of the price elasticity of demand for many goods and services supplies in the USA market, we find out that the Food demand is the most price inelastic good available, the thing that make me consider that food production has a comparative advantage and the least risk exposed business among the other goods or services supplied.

Price Elasticity	
0.21	Food
0.22	Medical Services
0.18	Rental Housing
1.20	Owner-Occupied Housing
1.20	Automobiles
0.26	Beer
0.88	Wine
0.50	Marijuana
0.35	Cigarettes
0.81	Abortion
1.30	Transatlantic Air Travel
0.58	Imports
0.40	Money

THREE ECONOMICAL SCENARIOS BASED ON TWO ASSUMPTIONS

The two assumptions are:

- a) the smallholder producer is not greedy for the sudden and dramatic increases in his production crops revenues.
- b) the smallholder producing tend strongly to protect the production crops against the potential sudden and dramatic loses in his production crops.

THE SCENARIOS

1. If the price of a single crop increased suddenly for any reason, that means the monocropped farmer will, initially, get a huge benefit of this increasing and also the Multicropped farmer who included this single crop into his production crops inventory, but, of course the benefit of the monocropped famer will be larger than the Multicropped because the first one has allocated all his production inputs for only this single crop the thing makes him produce larger amount of this single crop.

2. But, when the consumers preferences interfered and the people decided to search for a substitute for this highly increased price crop, they will definitely go to the substitute Good which is available in the Multicropped farmer production inventory. This monocropped producer will lose this category of the consumers whom will be gained by the Multicropped producer.
3. So, the Multicropped producer will benefit under the two conditions, from one hand get a satisfactory benefit from the increasing price of the single crop which is included in his production inventory, and from the other hand he gained the category of consumers who decided to replace the high priced good with its substitutes.

I hope you get the main point that propelled me to choice this project study.

Now I would like to survey the socio-economical situation in Egypt generally, and more concentrate on the horticultural sector and the characteristics of the domestic local domestic market in Egypt. and of course it will never neglect the emerging reformation political activities running currently in the Egyptian streets to establish for a new era of good living style, freedom, social justice and human dignity.

EGYPTAIN VEGETABLES DOMESTIC MARKET (SOCIO-ECONMICAL STUDY)

Quick glance on the current political situation

The fair follower for the recent political situation in a developing country like Egypt should notice the overwhelming mismanagement and injustice practices loaded on the country from the successive governments during the last decades which lose the country many valuable opportunity to reach the desired national advancement standard.

Some facts about Egypt I need to present to clear the situation up, first of these facts that the main player in the political regime of the country is the military and its figures of the high ranking leaders, since 1978 and the role of military in Egypt is on increasing ascendance. More than 30 years of military interference not only in the political life but until they militarization all the civil life in Egypt.

The excuses of the injustice practices based falsely on the national security and many other faked motivations to mislead the public and keep the military leaders their economical interests and to hold control over almost the all available resources in the country.

Of course this style of interference should not be in clear formal shape, so all the civil successive technocratic governments worked as a camouflaged civil layer for the real player in the regime. The most obvious evidence on these claims that none of these governments have been elected by the people, but simply they have been assigned by the previous ousted president Mubarak.

Therefore the whole wealth and opportunities in Egypt are collected in the hands of the military leaders, the political power related families and the corrupted government officials.

Many, many chances to save the situation and to fairly allocate the resources had gone in vain because of the central management and undemocratic style of ruling the country. The unorganized shift from public sector and central control to the free market and privatization mechanisms neglecting the social aspect of the restructuring the public sector has harmed thousands of the released labors and propelled them to search for another jobs and careeners out of their

specialization the thing increased the unemployment which has been already existing in the newly graduated and young men.

A wide array of national economical aids oriented to agriculture sector and to develop the rural and the most spread poverty areas has also gone for nothing and no result due to the lack of transparency and the mismanagement of the successive governments protected by the police and political repression against the opposition parties.

All these national violations led finally to the uprising of the people to face this official corruption and to establish a new era based on the citizenship rights and the equal opportunities for all to let the civil society to hold its own responsibility freely and courageously.

Besides, it is well known that the Egyptian judicial system functions extremely slowly, and court cases can often remain in the system for several years, making it financially impossible for smallholders to file court cases of any sort.

This situation is well known to any party who does not wish to honor a contract. Therefore, written contracts between two parties often favors the economically strongest party, making small holders hesitant to enter into contract farming arrangement.

For all these misuse practices and the resources mismanagement from the state and corrupted government official monopoly for all the economical opportunities, makes it very hard, for the small and medium-sized entrepreneurs, from my own point of view, to establish a business relying on any governmental financing or institutional credit.

FRESH FOOD MARKET:

The vegetable market is also highly affected by the whole situation in the country, in spite of the very valuable natural resources Egypt has been granted, the mismanagement and lack of planning has lost many opportunities that could be gained by the all sides of the market from the producer (smallholder farmers) to the consumers passing by the all supply chain rings.

For the Egyptian domestic market ,37 different types of vegetables cultivars as many types of fruits are grown. This various types of horticultural produce presents a huge selection palette of vegetables for the consumers.

The climatic conditions and the availability of water for irrigation make it possible to grow vegetables all year around. So, the supply chain favors famers (producers) as there is not any serious troubles that may hamper the production. So, it is a helpful point for the farmers against the crop production vulnerability.

And, I need to remind that I plan to start up a small or medium-sized enterprise, so I will make a study for the (1-3 feddan) farm area production. And I want to mention here that 90% of vegetable production produced for the domestic local market is produced from a smallholder farmers.

Smallholder vegetable production are usually marketed through channels based on the type of crop ownership agreement or the source of financing for the cost production.

PRODUCERS BEHAVIOR:

Many Egyptian farmers tend to adopt a very traditional and domestic style of farming production, that makes them avoid the agribusiness risks, and to store the home and family needs from the cash crops like Corn, Rice, wheat and the farmers who have the ability may produce cotton in the summer production season.

And the people who practice animal breeding for meat and milking, rely totally on the clover in the winter season.

Few farmers who have the knowledge and courage to practice the food, especially vegetables production. But they for many reasons, may fall under the traders' submission, who have the liquid capital, and always bargain the farmers to lend them a production loans in return for obtaining the right to market their production by their own way.

Other farmers get some institutional credit from the national banks like (the development & credit agriculture bank), but they still also under the power of the bank which must be loan repaid as soon as possible otherwise many disciplinary actions taken against the farmer.

So, if the farmer could understand the situation of the market and could make a right decisions for his production he could achieve an outstanding success without relying on the traders who minimize his profit and let his efforts go in vain without a satisfactory revenue.



Vegetables Supply Chain in Domestic Market

CONSUMER BEHAVIOR:

I need to study the local traditional domestic vegetables market in Egypt which most of the middle class population used to deal with.

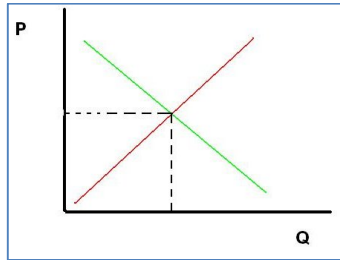
So the consumer behavior always tend to shopping simply from the open air stalls and check their needs themselves and select the better quality by hand. The huge selection vegetables palette makes it fun for the public to buy the daily fresh food, especially in the morning, when it is sure that there are a new and fresh vegetable crops have been supplied to the market.

Some other consumers, especially those who have not time to shop in the day beginning, prefer to visit the hyper markets after noon or in evening to purchase their needs and get their vegetables in the same time with they get their grocery.

But the hyper and super markets may not guarantee the freshness of the vegetables they display the same level as it is in the open air traditional daily markets. Because of the vegetables displayed in the hyper markets are usually stored one or two days before and kept cool in a cellophane covered trays, the style the Egyptian consumer dose not prefer for the fresh food consumption.

DEMAND AND SUPPLY MODEL FOR VEGETABLES MARKET:

Exactly as we have been learnt in the Microeconomics Principle Course, Dr. Jose Vazquez, the real world vegetables market operates automatically by normal intersections between consumers and producers. By decreasing the price the quantity demanded increase.

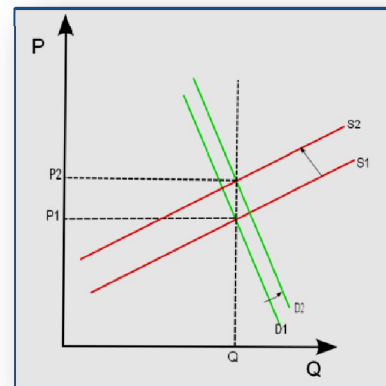
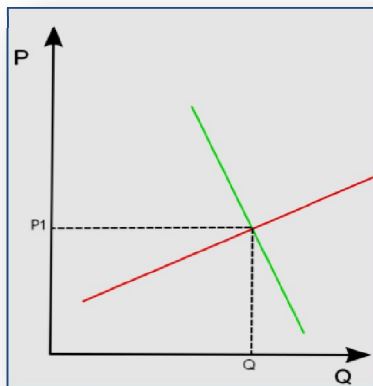


Vegetables Market Normal Situation

THE IMPACT OF THE CURRENT POITICAL SITUATION ON THE MARKET:

Due to the monopolistic procedures from the suppliers who increased the price pointlessly, the supply curve which is already inelastic, shifted up to right making the market supply decrease much more than the domestic demand increase.

In addition to the comparative advantage of the food representing the inelastic demand for this good, what makes the demand not responsive for any price increase.



Therefore, the consumers had to pay more for the same quantity demanded in spite of the little increase of the market demand which has been absorbed by the huge decrease in the market supply due to the pointless monopolistic practices by the suppliers (traders).

This paradox resulted in a governmental intervention to restore the normal market mechanism, by imposing price ceiling to restore the equilibrium price to let the market operates on its own.

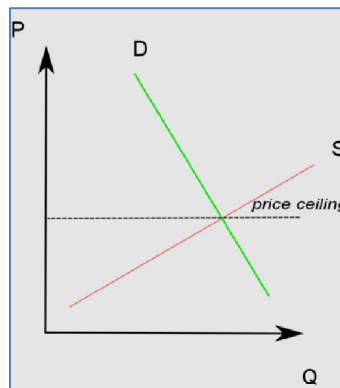
GOVERNMENTAL INTERVENTION AND MARKET EFFICIENCY:

Now it is clear that there is a some conflict between the suppliers who justify price increasing by a number of reasons, and the government represented in the (Ministry of Supply and Domestic Trade) who think that vegetables price increasing is pointless because of the uncontrolled pricing policy that is under the suppliers (traders) power due to the monopolistic procedures they practice to increase their profit.

But, From the suppliers (traders)'s point of view, that they hold additional costs burden because of the already high prices from the production origin (farmers), wholesalers, and the transportation costs.

So the government think to impose a price ceiling to enforce the suppliers (traders) to return to the market equilibrium price as a consumer protective action.

Suppliers (traders) have claimed that this is an imaginary solution and would result in appearing the illegal marketing practices like (black market) and would propel us to store the crops until the market reach the satisfactory price what means more monopolistic practices to avoid the harms of price control, and it would be better to let the market operates on its own mechanism.

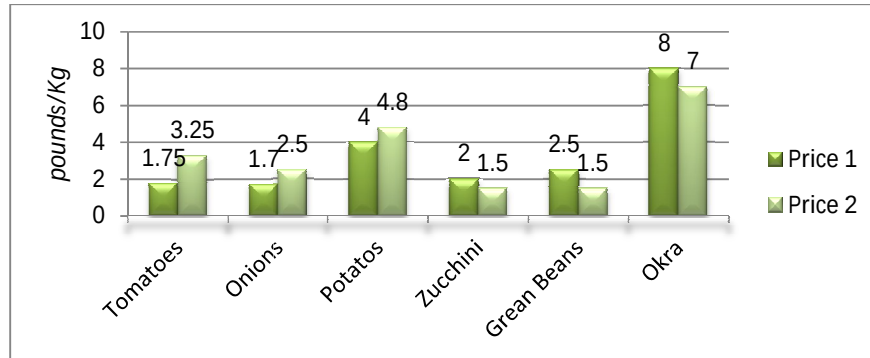


DO FARMING DIVERSIFICATION IS A SOLUTION FOR THE CURRENT SITUATION?

So, far there is an emerging gap between the supply and demand in the vegetables domestic market, and a complicated situation that propel the suppliers to increase the price claiming that it is for the normal market mechanism.

The governmental intervention to modify the situation will probably increase the conflict between the two sides of the market. Here is I present an economical solution that mainly bases on the market mechanisms.

Supply diversification let us assume that after a one season market study we have found out that some vegetables crop has increased in an increasing rate, and others has decreased and some other crops already has a very high price even after decreasing.



For example:

Tomatoes increased by 1.5 £

Onions increased by 0.8 £

Potatoes increased by 0.8 £

Zucchini decreased by 0.5£

Green beans decreased by 1.00£

Okra decreased by 1.00£

I need to remind with the two assumption whom this research is based on :

a) the smallholder producer is not greedy for the sudden and dramatic increases in his production crops revenues.

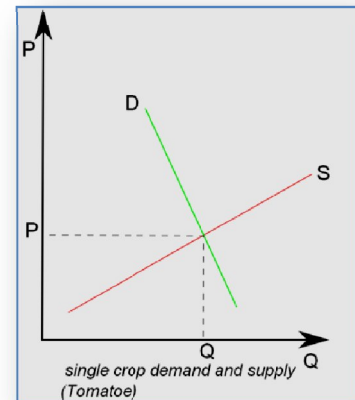
b) the smallholder producing tend strongly to protect the production crops against the potential sudden and dramatic loses in his production crops.

and the main idea is to submit to the market mechanisms, get the maximum benefit from the current situation, and to protect my production crop array from the sudden and dramatic loses due to these clear fluctuation.

so how can I make my decision , as a producer, for the next production season?

Do I concentrate solely on the profitable crop like for example tomatoes? Or is there any other options based on an economical study to guide us to the rational incentive, as a producer, keeping in mind the previous two assumption.

Let's see.....



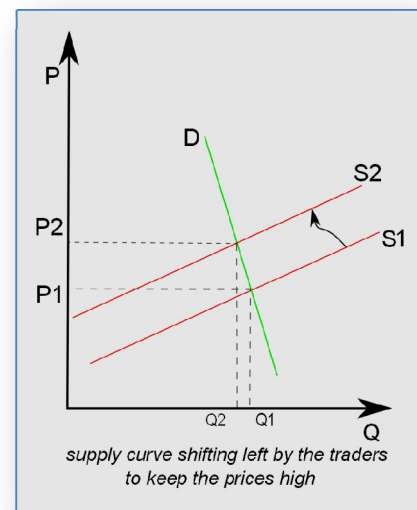
STUDYING A CHOSEN VEGETABLE CROP INDIVIDUALLY

now the most profitable crop for me, as the last numbers show, that could be tomatoes as it gets

1.5 £ increase in price.

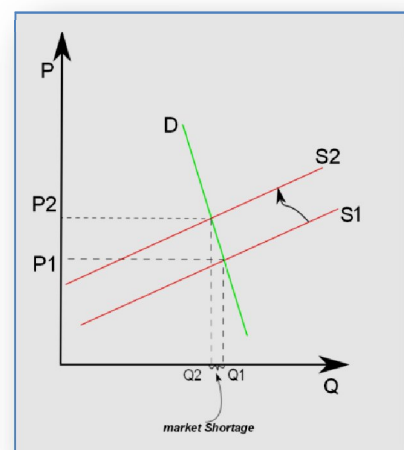
This indicator is somehow not a true sign because of the next reasons.

- Most of the procedures will be stimulated to produce tomatoes according to the invisible hand principle to gain the prospective profit. As shown in the next graph.



- This will make a production surplus of tomatoes production that directly will reduce the price, but the suppliers (traders) may tend to keep their market prices high by storing the tomatoes production and reduce the supply.

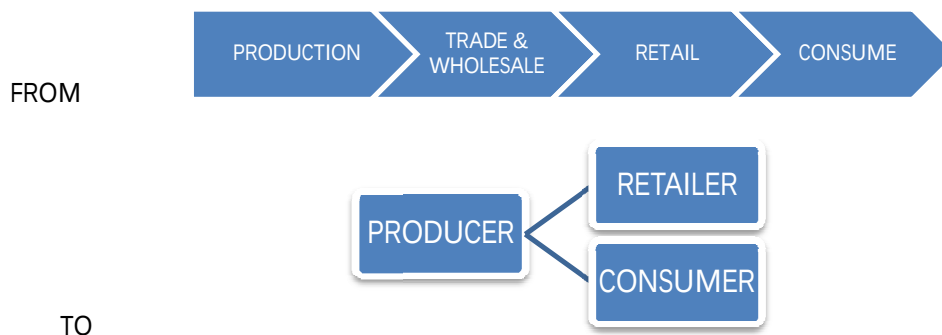
- Hence the consumers has to pay more for the quantity demanded and there will be a supply shortage in the market needed to be rectified to reach the free market equilibrium.



- For traders (suppliers), they risk the quality of the commodity because it is a perishable kind of goods what may result in a huge lose in the supply if they could not market it on time with the desired price, so sooner or later they will provide the market with their stored goods.
- For consumers, it is clear that they are under the power of the suppliers who manipulate the price of the market, and suffering from the lack of substitute what deteriorating the whole situation.
- For farmers (producers), and this is the most important point, they have a very good opportunity if they could supply the market with an additional quantity supplied to vary the vegetables crop supplied and to rectify the high prices of the market and gain a good profit from the high price of the single crop supplied (tomatoes).
They will work as a suppliers beside the production process, this will eliminate the transportation costs and the commissions taken by the wholesalers and the traders what will positively affect the final market price.

STUDYING A CHOSEN VEGETABLE CROP SIMUTENIUOSLY :

Now let's assume that I am, as a smallholder producer, decided to minimize the supply chain for the domestic market so as to market my production directly avoiding the long chain supply rings.

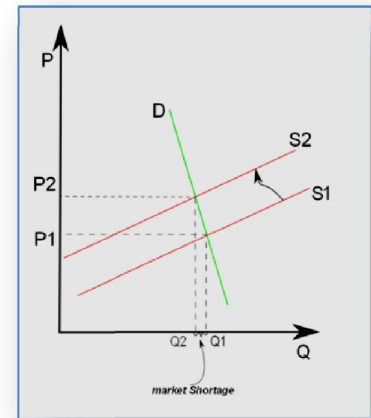


Then I run my trade depending on an array of crops such as (Tomatoes, Onions, Zucchini, Potatoes, Green beans, and Okra).

What would be the economical scenario of this approach?

Now this is the final situation of the single crop production in the market

High price of the tomatoes, traders manipulation, and market shortage.....

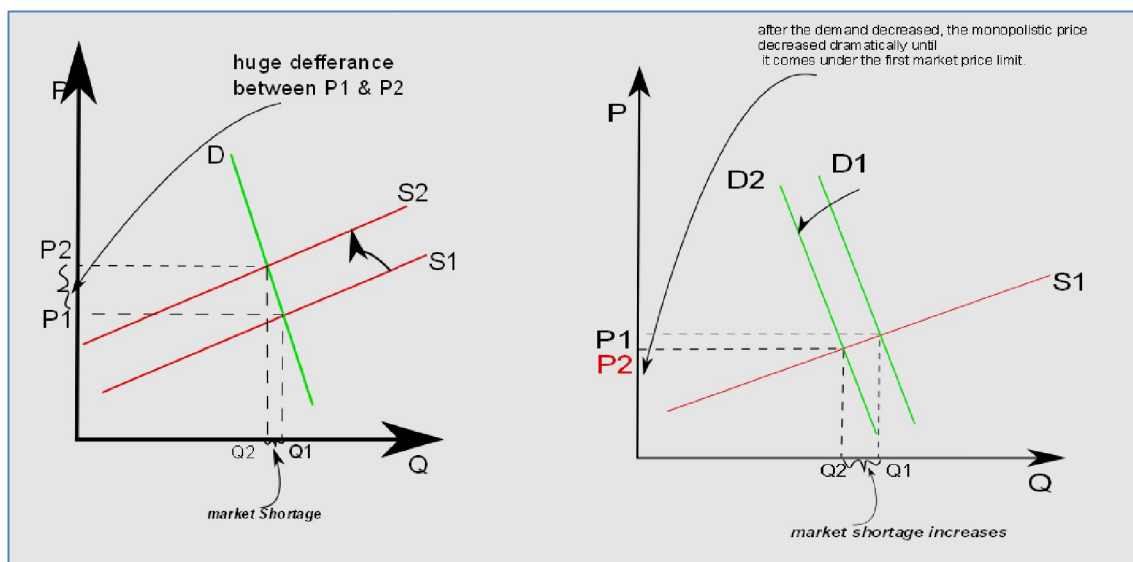


For the consumers,

By supplying the substitute of the tomatoes such as the red bell pepper, consumers will incentive to consume the substitutes and the tomatoes demand will reduce shifting the demand curve leftward.

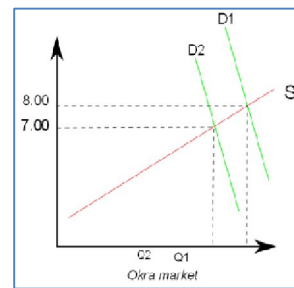
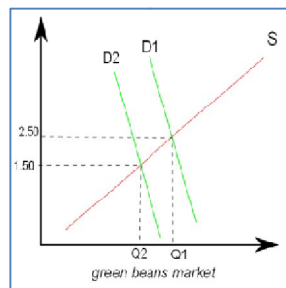
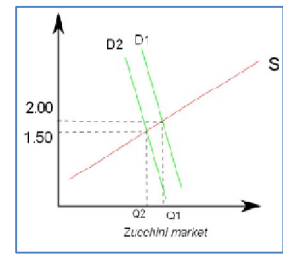
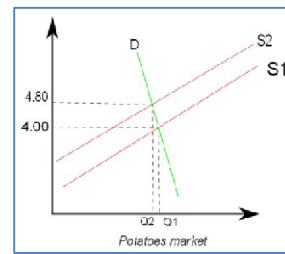
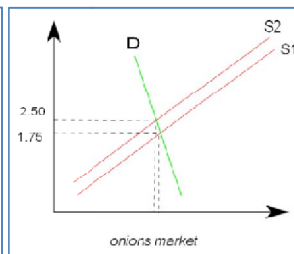
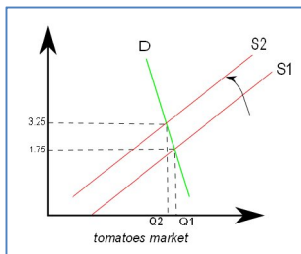
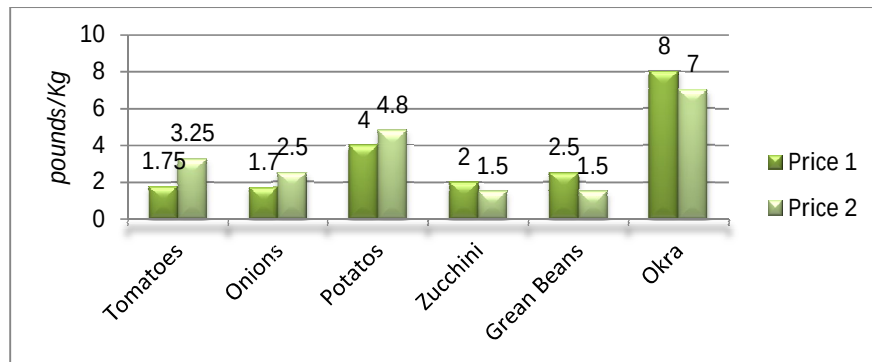
For suppliers (traders)

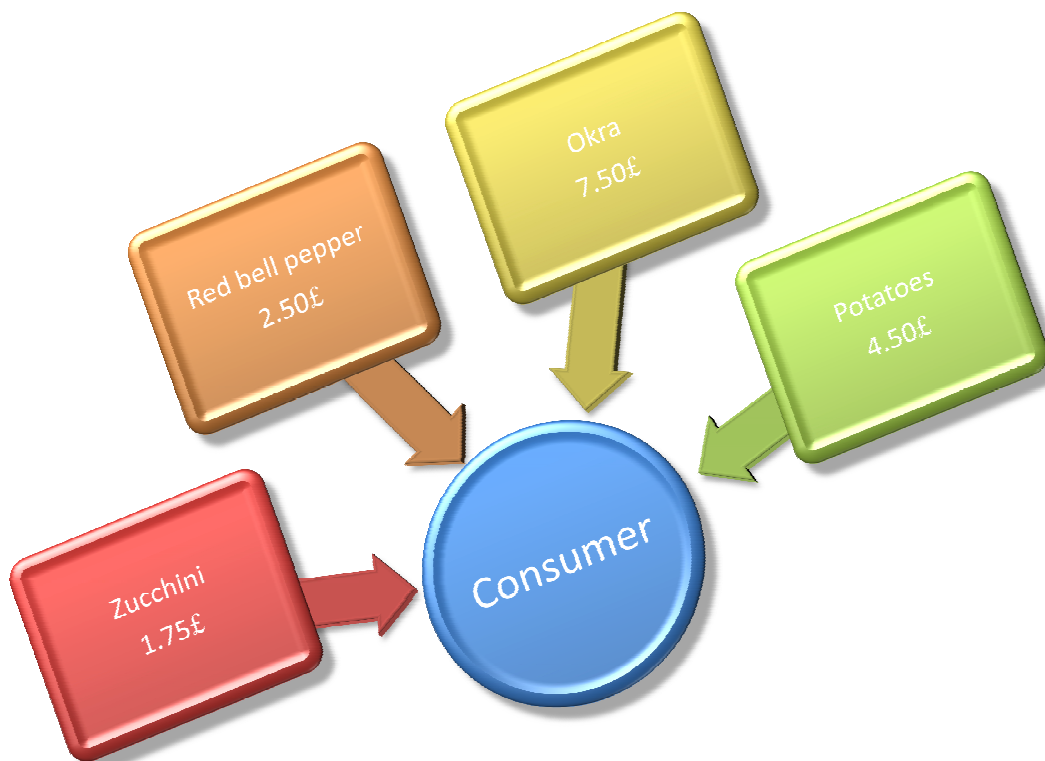
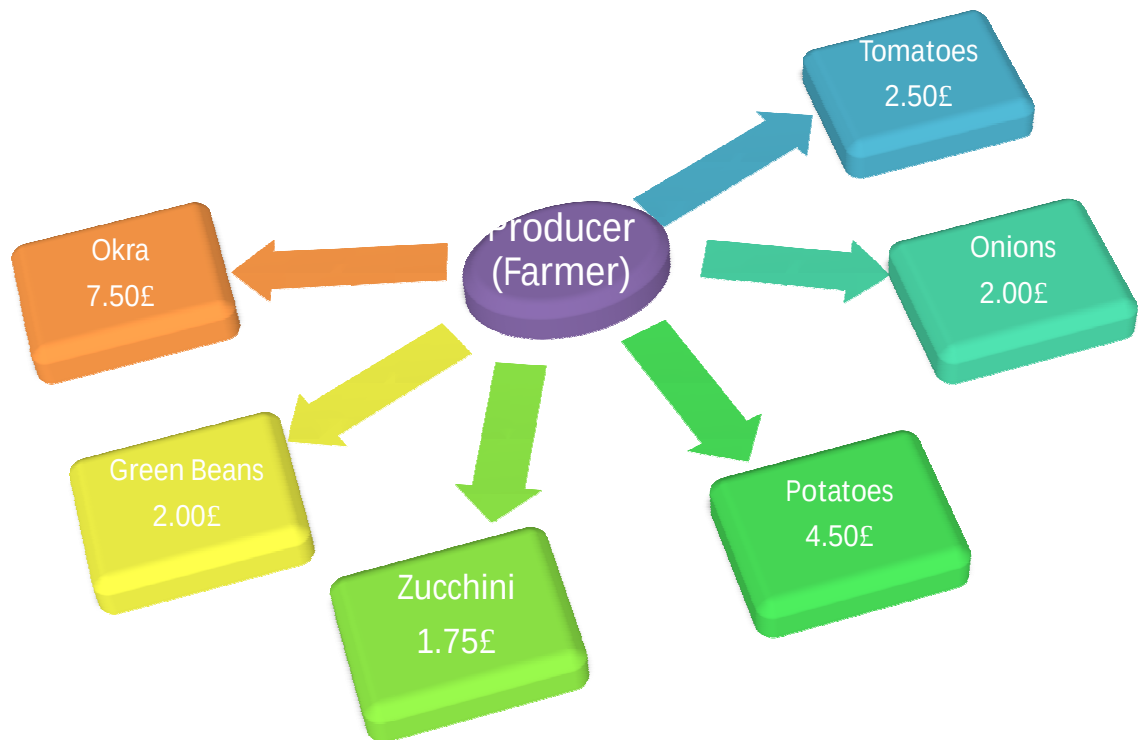
This will make the suppliers (traders) to return to the original supply curve (S1) by providing their stored tomatoes. What makes the new prices decreased dramatically until it reaches the first market price limit and it could even exceed it to come under the first market price.



For producers (Farmers)

- 1- In case they will supply one single crop it depends on the price of this crop in the market, so it can be satisfactory or not.
For example if the farmer decide to produce onions or tomatoes it will be good choice for the high price of these crops, but if he decide to produce Zucchini or Okra for example it would not be good choice for the decreasing price of these crops in the market.
- 2- Now, I decided to adopt the *farming production diversification* to operate in the market with a range of vegetables crops like tomatoes, onions, potatoes, zucchini, green beans, okra.
- 3- And I will submit my production to the normal free market mechanisms under any level of prices for the all my crops palette.





- 4- By the normal intersections between the consumers & producers , the market of the high prices crops will be automatically return to the equilibrium price giving a chance to the consumers to choose between a great array of food production, and let the other low prices crops to achieve a satisfactory prices for the producers.

CONCLUSION:

Socioeconomical benefits :

1. The aim of the economic knowledge is to manage the scarce resources wisely and to maximize your profit from the input unit, so managing the small-scaled farms to produce an array of the vegetables crops that means that you unified the input units and produced many types of outputs that can be used to maneuver in the fluctuated market to be always in the equilibrium point for both sides of the market.
2. Break the illegal monopolistic procedures committed by the traders by reducing the domestic supply chain, when the farmers work as domestic market suppliers, will form an excellent opportunity for the farmers to reduce the commissions taken by the traders or the suppliers what makes it very easy to operate in the market with a competitive pricing strategies.
3. Applying the Farming Production Diversity will reduce the marginal cost for each unit of the output by distributing the allocated resources and inputs, not only for a single monoculture crop but for a wide range of a vegetables production, the thing which is very crucial in facing the market pricing fluctuation.
4. Since market is the best way for distributing resources, farming diversification will form a mutual economical benefits between consumers and producers the thing will increase the total surplus in the market and in return increases the welfare of the society.
5. Farming Production Diversity makes the capital cycle very quick, since the farmer (producer) produces many types of crops all year along simultaneously or at least successively, the thing always makes him involved in a continues production cycle and makes the capital liquidity always available.
6. Farming Production Diversity encourages the farmers (producers) to manage and operate independently under the free market mechanisms, what increases their ability to hold, not only the production responsibility, but the market transactions as well.

Social-Ecological benefits:

7. Saving the natural resources such as soil, by using the no tilling farming in the farming diversification system.
8. Saving natural and common resources such as water, because the unit of farm land produces many types of crops.
9. Reducing the chemical pollutants because the diversification system resists the pests by alternating between many crops.
10. Farming Production Diversity provides a sound rural life style by providing a range of livelihood benefits, such as healthier diets and farmers autonomy.

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