CONCLUSION AND SUGGESTIONS

The present study is an agrographic investigation of contemporary Syria, carried out in a comparative methodological framework. It deals with yearwise trends in area production and yield and also examine the sources of variations in levels and growth of agricultural productivity in different states of Syria. This work has been carried out within the framework of environmental factors combined with technological and institutional mechanisms. The trends in area production have revealed the changes taken place in foodgrains cereals and pulses along with cereal and pulse crops from 1951 to 1983. The following main observations can be deduced.

(i) In the country as a whole more than 80 per cent area is devoted to the cereal crops. This distribution is not uniform in all the states of the country. However, it has been observed that almost in all the states of the country the cereals are the dominating crops. It is because of the higher yield of the cereal crops than the pulse as cereals are contributing more than 60 per cent of the total foodgrain production.

(ii) During the period under study the pulse crops have undergone through marked fluctuation. The production trend of these
crops have witnessed a high instability. For example, in case of Lentills the production during 1954-58 was 0.05 million metric tonnes and has gone down during the period 1959-63, while as in the remaining periods starting from 1964-68 to 1974-78 the production has slightly increased and has again shown a decreasing trend during the period 1979-83. During this period the production has reached to 0.06 million metric tonnes.

Similarly in Chick peas the production curve recorded a complete variation. It has been observed that the total average production from 1954-58 to 1979-83 was 0.03 million metric tonnes. The total average production during 1954-58 was 0.01 million metric tonnes. It has gone down and reached to 0.013 million metric tonnes during 1959-63. Then a slight increase had taken place and the production had reached to 0.03 million metric tonnes, when it had gone down during 1964-68, while as a slight increase had taken place during 1969-83.

Same situation prevails in case of bitter vitches, Rambling vitches and Oats. It has been observed that almost all the pulse crops have recorded a very low area under cultivation, while as the yield kg. per hectare of all these crops have gone very high. For example, yield kg. per hectare of bitter vitches during 1954-58 was 660 kg. per hectare when the area devoted to the crop was only
0.018 million hectares. Same trend prevails in the remaining periods from 1959-63 to 1979-83 i.e. the area during these periods was low as compared to yield recorded per kg. per hectares.

However, some of the cereal crops like maize and rice have recorded low area under cultivation and their yield kg. per hectare has gone very high. In case of maize the yield kg. per hectare during 1974-78 was 2,000 kg. per hectare, when area during that period was 0.02 million hectares. The average yield of the crop during 1974-78 was 2,000 kg. per hectare when the yield had reached to only 0.02 million hectares.

On the other hand foodgrains have covered large area under cultivation, while as the yield recorded by the crop had also remained the same. For example, during 1979-83 the total area devoted to the foodgrains had reached to 2.9 million hectares, when the yield kg. per hectare had reached to 1.0 million hectares. While as in some of the periods like 1959-63, 1964-68 and 1969-73 the foodgrains had covered a very low yield. When the area during that period had gone high.

On the whole there is much fluctuation observed in all the cereal crops, but the rate of fluctuation is high in pulse crops as compared to cereal crops, while as in case of cereals pulses and foodgrains, the rate of fluctuation is high in pulses as compared to cereals and foodgrains.
In the next chapter i.e., cropping pattern and productivity level the per cent share of each crop to the total gross cultivated area and productivity levels of each has been analysed. It has been seen that in the country as a whole wheat and barley have occupied 40 and 50 per cent of the total gross cultivated area, while as the remaining crops constitute insignificant share except some pulse crops, which have recorded a share of 3 and 2 per cent respectively. Wheat and barley are grown almost in all states of the country; while as some of the states like Dier-ez-zor and Quneitra, along with wheat and barley other crops like Rambling vitch, Bitter Vitch and Broad Beans are grown.

In Dier-ez-zor, wheat constitute 37 per cent, barley, 16 per cent and Maize 7 per cent. High percentage of wheat and barley was found in Aleppo and Hama (59.33 per cent). It has been observed that almost in all states, like Tartous and Quneitra the percentage of wheat reached upto 79 and 68 per cent respectively. In these states only wheat is grown, while as in Tartous both wheat and vitches have reached upto 47 and 9 per cent respectively. But on the whole the country is a bi-crop region.

There is a high state level variation of cereals and pulses. Mostly there is domination of cereal crops in the country. During 1972 - 75 - 76 - 78 the high average yield level was recorded in Damascus (1386 kg. per hectare) while as in case of pulses the
yield level had reached to 2,428 kg. per hectare in Lattakia.

States like Aleppo, Hama, Hasakeh, Rakka and Quneitra have contributed 71 per cent in the total production of foodgrains during 1972-74 to 1975-77 and have recorded an area of about 74 per cent under cultivation. These states have recorded a high share of area under cultivation, while as high growth level of cereals was recorded in Damascus, Aleppo, Lattakia and Dier-ez-zor and Idleb. It is thus observed that there is a great variation in all the states of the country.

On the other hand, in case of pulses, only four states including Damascus, Aleppo, Homs and Hama, high growth level in area as well as in production was recorded.

In case of cereal crops, the wheat and barley are leading crops, Damascus, Hama and Hasakeh have contributed 45 per cent in the total production of wheat and have contributed 35 per cent in total area, while as low growth rate of wheat was recorded in Tartous, in which the total area and production shared by the crop was 1.92 per cent only.

The growth level has also shown a wide variation. The growth level in barley is mostly towards the north western parts of the country and a small portion towards eastern side is also under barley cultivation. The main states where barley growth
level is high include Damascus, Aleppo, Hama, Hasakeh and Tartous. While as low growth level was recorded in Dier-ez-zor, where only 4 per cent area is under cultivation and have contributed 6 per cent in the total production of the country.

Next to Lentils come vitches. High average yield of the crop was recorded in Lattakia (1,449 kg. per hectare). However, the states like Quneitra, Rakka, Idleb, Aleppo and Homs have shown a total area of about 49 per cent and have contributed 40 per cent in the total production of the country. While as low yield level on the other hand was recorded in Dier-ez-zor, Sweida and Dara. These states following almost south eastern block of the country contribute 16 per cent in the total production of the country and share an area of about 10 per cent.

Since the work has been carried out within the environmental, technological and institutional framework, therefore, the influence of all these variables can be studied as here under.

The land form, soil and climate have played a wide role in effecting the land use and spatial distribution of crops. Relief and structure of the land have exercised a direct influence on the land use, cropping pattern and spatial diversity in crop yield. For example, the steppo plain in the central Syria which runs from the Jordanian border is influenced by the nature of land and is known for cereal crops.
With vast areal differences in topography, climate, soil and irrigational facilities the agricultural attributes have also shown diversity all over the country. The areas having assured rainfall and developed water supply differ from the areas, where rainfall is more or less scanty and irrigation facilities are available to some extent, e.g. the coastal region lying between the mountains and the sea towards the north west of the country is mostly a productivity agricultural zone, because the area is favoured both by good rainfall and favourable geographical location.

Next to this coastal area the interior plain region comprising the plains of Damascus, Homs, Aleppo, Hasakeh and Dara are known for the cereal crops. The plain is also located suitably.

The chemical composition of the soil also plays equally an important role in determining the potentiality of land e.g. the cinnamonic soil, which is known for barley cultivation is reddish yellowish in colour and its rainfall vary from 150 to 300 mm. The soil is rich in calcium contents and mostly covers the interior plain of the Syria.

On the other side the Alluvium soil is having a loam and clay texture. This kind of soil is mostly found in low valleys of Euphrates river and its tributaries. The soil is suitable for the cultivation of cereal crops. The fertility rate is high and
its moisture retaining capacity is also very high. However, it has been observed that allivum soils at higher grounds has high fertility rate. The soil receives 250 mm rainfall, but in some parts it goes very high.

Rainfall variation have directly effected the cropping pattern in the country. It has been observed that the coastal regions towards the Mediterranean side have an average rainfall of 20-40 inches, as the north eastern and south western parts of the country have an average rainfall of below 325 inches. Accordingly there is a variation in the crops grown in these areas. Central region mostly the Damascus area running up to the extreme south influencing states like Sweida and Dara is known for cereals cultivation.

The extension of irrigation land is of vital importance. It has been observed that large potentially fertile areas yield little, because rainfall is inadequate and where all the cultivable areas provide no summer crops because no rain falls from spring to autumn. It has become more imperative with the shrinkage in the area of good rainfed land, which can still be taken under cultivation. Thus irrigation is the principal means for expanding the cultivated area, increasing and stabilizing yields and diversifying agricultural production, developing summer crop cultivation. The possibilities of additional irrigation are by no means limitless. Except
for the Euphrates, Syria has no large river with a substantial flow during the summer dry season. In fact, the Euphrates accounts for 83 per cent of the aggregate annual flow of Syria’s rivers. Thus the available water supply may set a limit of 9,00,000 to 6,00,000 hectares on the additional area, which can be irrigated provided irrigation facilities are made available.

It is seen that foodgrains in the country along with all cereal and pulse crops have undergone much fluctuation. This fluctuation is directly proportional to the environmental constraints. For example, a whole sum rainfall, leads to higher agricultural productivity and conversely an unfavourable whether corresponds to lower productivity levels. Therefore, it is imperative that more arable land should be brought under cultivation, so as to avoid necessary fluctuations.

It is also suggested that land under agriculture be planned under a well development perspective. A multidimensionally technological infra-structure is needed in order to ensure a wholesome agricultural yield. Modern agro-technological implements should be used on a wider scale. Also the introduction of HYV and fertilizers has got to be introduced, so as to countervail the vagaries of nature. In order to built up a sound agricultural economy following objectives are to be fulfilled.
(i) Action to sustain and enhance the momentum of economic expansion and technological development.

(ii) Adoption of effective promotional measures to raise the productivity and incomes of the poorer section and poorer states.

(iii) Expansion and qualitative improvement in facilities for health, education and other basic civic amenities.

(iv) Measures for bringing about a sharp reduction in the rate of population growth.

It has been observed that farmers in the country are dependent on landlord for farm supplies and operating capital. Often he contributes little towards the crop production. It has also been seen that most of the large owners do not live permanently on their land and operate through some type of share cropper system. Hence the organisation of the extension service should be such, so as to permit its ultimate development into the central agricultural agency, through which the educational activities relative to improved techniques in agriculture and rural living are channeled. In its particular sphere the activity of extension service should coordinate the findings of all departments within the Ministry of Agriculture. It should become eventually one of the three or four principal departments of the Ministry of Agri-
culture, separated from the research control or administrative work of the Ministry. For the present, however, it would seem desirable to retain the division of cooperatives and the extension service on the joint basis. The extension service should not have regulatory or police power function, for this would evolve education in the pleading of special causes or the enforcement of sanctions. Education and extension rather involve training on the basis of voluntary participation by farmers. At the national level the service should be staffed to adequately to serve the village communities.

The future development of agriculture will require increasing application of science and technology so as to increase factor productivity. The management of science and technology development will need to be revived on a continuing basis for ensuring that the pace of the technical progress is enhanced. Arrangements for access to technology need to be improved. Quality of education need to be upgraded so as the knowledge and skill of labour force can be improved in order to facilitate the faster production of new science and technology.

Planning for accelerated growth in a country and diversity must have built in flexibility to cope with the many sources of uncertainty which characterise modern economic life. To add to the effectiveness of planning process there must be emphasis on
decentralization to provide the needed elements of built in
flexibility as well as greater involvement of people at all levels.
This will ensure that development programmes particularly those
relating to agriculture and rural development will take adequate
account of regional diversities in resource endowment, needs and
development potential. There are following basic necessities of a
rural institutional infra-structure designed to assist the small
farmer (i) it must ensure for him access to needed resources of
technical advice and information as well as the co-operation of his
peers. (ii) There must be proliferation of both competitive and
non-competitive public sector and private sector institutions
sufficient to provide target groups - (e.g. the small farmer with
easy access to the variety of organization, he needs to serve his
various interests). (iii) It must place critical rural insti­
tutions at a level above that of village in order to give each
institutions an adequate resource base and to break the rigidity
of traditional village level power structure.

There is a shortage of trained agriculturilist. Steps
should be taken to improve the teaching and research facilities
at various intermediate agricultural schools at Aleppo, Dier-ez-zor,
Lattakia and also at the secondary agricultural schools. The
extension worker needs a well training in the technical aspect of
the agriculture and a good knowledge of social and economic
problems in rural communities. In addition to pre-service training centres, it is essential that in-service and refresher courses be provided for extension personal. The Food and Agricultural Organisation should be requested to assist in the development of training centre for extension workers. This activity might be supplemented by a cooperative management between the Ministry of Agriculture and the near east Foundation for the training of village community workers. The work of this foundation provides a useful example of an effective method of reaching the small farmer.

The findings of research experimentation and the experience of the farmers give support to extension programme. Much information is already available and should be transmitted to farmers, but more systematic and better coordinated practical research should be the aim in the future. The two functions of research and extension should be coordinated within the Ministry of Agricultural, so that each performs its specialized service, in a manner that supplements and complements the other. Research must focus on the key and anticipate future problems.

Through the establishment of the cooperative joint Farming Society, per hectare yield may successfully be increased. In this system the right of individual ownership is recognized and res-
pected, but small owners possessing uneconomic holdings should pool their land for the purpose to joint cultivation viz., the individual ownership and collective farming. The farmers being joint, will also provide facilities to use modern scientific agricultural equipments which will increase the state-wise production.

A continuous monitoring system should be evolved to examine and investigate into the performance of farmers. The cultivators require short intermediate and long term credit for variety of purposes and finance for the development and conservation of resources like construction of wells and embankments etc. However, the government has introduced much schemes in which it provides finance to the villages in the form of loans.

The most important innovation need to be undertaken in the institutional sectors. Modern agricultural institutions which can provide adequate training facilities should be set up. Land reforms should be carried out so as to ensure greater involvement of the masses in agricultural sector. Land must go the tillers. The feudal wastage should be removed. The landless agricultural labourers should get surplus land and adequate facilities so as to motivate the toiling class for producing more food.

There are many imponderables and intangibles in the complex pattern of rise and fall of agricultural productivity. Therefore,
no food-proof suggestions can be offered to ameliorate the growth of agricultural output. However, the above suggestions it is hoped can go a long way in bringing about a wholesome change in the agricultural scenario of modern Syria.