PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
WEEK 10 /LESSON NOTES & ACTIVITIES

School: Penang Sangam High School **Year/Level:** 12B

Subject: Geography

Strand	**Physical Geography**
Sub Strand	**Agriculture and Food Supply**
Content Learning Outcome	**Evaluate the future of agriculture and its benefits**

Case Study – New Zealand

Today only after 150 years of European occupation only 30% of New Zealand classified as non-productive, much of this land is unsuited to farming and forestry because of its harsh climate, steep slopes, unfertile soils, or poor drainage. The remaining 70% of New Zealand is occupied land, most of which is covered in the introduction in the pastures that feed our three million dairy cattle, five million beef cattle and sixty – five million sheep.

Landform in New Zealand

Extensive Pastoralism: Very large farm holding, vast open pasture land, low output per hectare, low population density, poor road access.

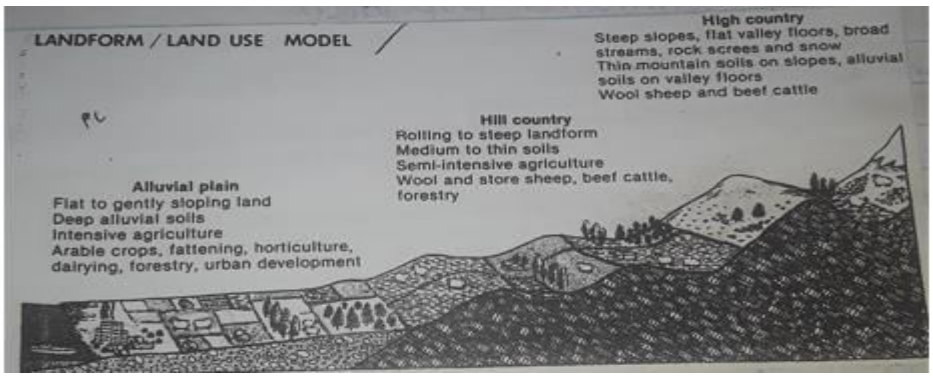
Intensive Farming: farms often between 50-4000 ha, paddocks well fenced, good road access, high output per ha, medium population density, and fertilized soil.

Intensive cropping: farm often between 5-50hac, land divided into small blocks, excellent road access, very high farm productivity, high rural population density.

Urban: land is sections of 0.2-0.5 ha, non-agricultural land use, fully developed road network, road divided into functional zones, highly concentrated population.

Activity

1. Differentiate between extensive and intensive farming._____
   _____
2. Explain accessibility could assist the growth of agriculture in a country like New Zealand._____
   _____



Factors affecting land use.in New Zealand

1. Climate – the most common tree in New Zealand is the human introduced tree or the exotic forest which is the radiata pine. Such a fast growing rate makes radiata pine very popular with foresters because it matures and can be cut earlier than other tree species.

2. Accessibility – this relates to the distance and time it takes to transport produce from the farm or forest to a destination, even to the processing factory or the marketplace.

- If transport cost is high it can be uneconomical for the farmer to continue his particular produce for example high cost and long journeys can prohibit a dairy farm from being too far from the market.
- The value (per weight) and the perishability of the product are important in determining accessibility.
- Produce that perishes easily such as tomatoes, will be grown closer to the market to avoid any spoilage in rough and long transportation.

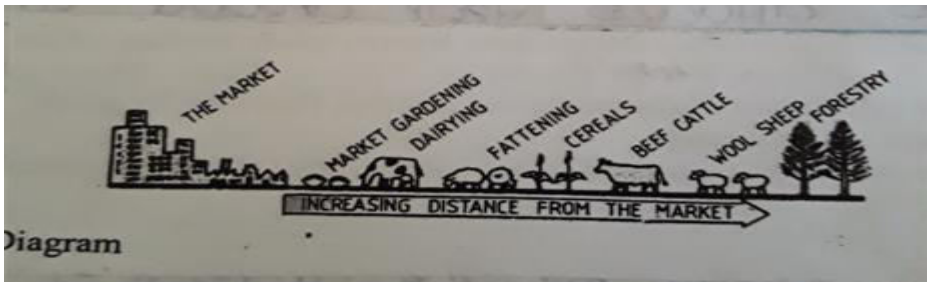
3. Sol Fertility- high fertility is particularly favorable to cropping and market gardening. Soil deficit prevents animals from being farmed but pine trees flourish.

4. Market potential – a farmer or a forester is unlikely to grow a produce unless a market exists for it. This has opened up many possibilities and some farmers are experimenting with new crops and new animal breeds.

5. Individual preferences – most farmers exercise a certain amount of choices in what they produce. In the Bay of Plenty for example some farmers are converting their dairy farms into orchards so they can grow and sell fruits which are fetching high price in the international markets.

- Some potential and profitable crops can not be grown by farmers who wish to, because of governmental legislation.

- tobacco growing for example is restricted to the Nelson region.



Diagram

Reason high agricultural productivity in New Zealand

1. Climate: New Zealand's climate is one of regular rainfall and moderate temperatures. This allows year round grass growth in most districts. For farmers this is a great asset.

a. Pasture – is the term given for grasses that are grazed for livestock. Most pastures in the North Island matured exotic grasses (introduced by humans) and donor varieties whereas large areas of the South Island are in native tussock grasses.
b. Under New Zealand's native forests there are acidic soils which have low fertility. Much of the land became barren and was easily eroded .

c. Differing environments and land uses have resulted in a need for a wide variety of pasture types. Such as crested dog tails, timothy, cocksfoot and lucerne are some of the pasture grasses available.
d. By doing this the farmer can take advantage of the differing growth rates of such grasses and so assist soil fertility by giving the soil a change of vegetation.
e. The most popular grasses in the North Island and low regions of the South Island are ryegrass and white dover. These two introduced grasses grow together in the field; the clover produces nitrogen in its root structures while the ryegrass grows rapidly feeding off the nitrogen from the clover roots. The two grasses could be grown side by side without exhausting soil fertility. However for good sustainable pasture growth other fertilizers are necessary. Superphosphate and lime are the two main fertilizers spread over pastures today. The superphosphate adds minerals to the soil while lime reduces the soil's natural acidity.

2. Technologies – a form of advanced technology utilized in New Zealand is the process of Aerial Top – Dressing – this is the use of aircraft to spread fertilizer on the farm.

Advantage- increases productivity , large area of land can be fertilized over a short period of time,

Disadvantage – very expensive to buy, repair and maintain, creates unemployment.

Activity

1. Explain two factors that contributed to successful agricultural activities in New Zealand._____
   _____
2. What are some disadvantages of using technologies in farms from a farmer's view?