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Analysis on Local Food and Agrochemical Concept

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Aims: To distinguish between the defining attributes of local food and agrochemical concept as well as its irrelevant structure.

Study Design: Wilson concept analysis consists of comparison of data units abstracted through selective literature and website review.

Place and Duration of Study: Sample: articles and website available on the internet, from 2016 until 2017.

Methodology: Sample: We included 14 sources, including articles and website. Analysis employed in this research consists of determine differences of attributes and internal structure; contrary cases is an instance that is absolutely sure not an example; a related case is close to model case; an invented case is if concept is rare or is very familiar; social context that is related to culture; and a practical result that is implications to make a difference in live.

Results: Local food idea contrast from *halal* food idea. Meanwhile, agrochemical refers to monoculture present in rural regions that produce several things. Whereas, paddy in 1970-1980 reached around 87 percent of the national demand the result of state strategy that stressed greater food self-sufficiency by growing harvest.

Conclusion: Concept of local food differs with other concepts in food aspects. Meanwhile, agrochemical different with several fertilizers' concepts. A recommendation for further research is focus on the local food and agrochemicals with respect to improved agricultural seed.

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1. INTRODUCTION

The previous techniques applied to investigate of foods at the originating of the 20th century relied on the analytical chemistry have transformed towards the present strong instrumental methods utilized in food laboratories. This growth has caused to important upgrading in analyzing correctness, exactness, capture limitation, and sampler everywhere consequently broadening the sensible selection of food utilization [1]. Notwithstanding, [2] shows that techniques planned to assess food and nutritious consumption had database constrained and individual assess contributes lacking assess of personal consumption. Various researches suggest that food generally fruit and vegetable yielded and eaten domestically generates greater economies, efforts in a region comparing food supplied and sourced from a non-home-grown supplier. Economies efforts assessed by estimating the economy effects consider to firstly the revenue gained specifically by farm sales or accompanying by sales at closer enterprises, as would be the case for established growers market. Secondly, stimulated revenue that results if money maintained in the home-grown system is re-used up regionally and ultimately raises in occupation [3].

Present applied of utilizing farming chemicals represent a main function in the ecological health attentions of farming. Those who combine burden and managing the focused formulas operate the major threat of expose however farmhand and others can meet important degree of pesticides. Enhanced techniques of implementation and methods of minimizing the overall number of pesticides used can facilitate lessen ecological damage. *Chemigation*, directly injection, closed arrangement dealing and fertilizer saturation is instance of technology that affects the effectiveness of using farming chemicals. An area of useful studies associated to outflow and run out technology [4].

This part responds the concerns "Why analyze local food concept?" that is comprise the scope of the local food idea and the actual global issue or matter pertaining the local food concept. The significance of local food concept analysis is to explain local food term more clearly to make it easier to understand. It also gathers the necessary information, find associated elements of local food and understand local food attribute.

The objectives of this analysis includes (a) to distinguish between the defining attributes of local food and agrochemical concept as well as its irrelevant structure and (b) to determine local food and agrochemical concept internal structure by breaking it into simpler elements. The hypothesis is local food and agrochemical concept have different attribute to another concept related to local region tend to be working efficiently to define the concept. The research question is what is attributing and internal structure of local food and agrochemical if distinguished with another concept?

A statement of the problem seen in [5] stated that the great price of crude oil has enhanced the needs for bio fuel for example biodiesel, which employ palm oil as the important feedstock. If this growth remains, it potentially influences Malaysia's capability to grow greater food as productive land committed to oil palm cultivation. Therefore, the pattern for food safety attention has transformed, as energy and food need are contending for the identical combine of assets, in definite land and water. Poor funding in farming and strong concentration on bring in crops have turned the food industry abandoned. Rice, which is the nation's "safety crop", unsuccessful to improve nevertheless strong subsidies and incentives supplied by the state. Food safety role in three areas, i.e. economic development, poverty, decrease and consistency, much exceed the dimensions of food self-sufficiency that employed as an agent for food safety evaluate for the state. Despite, state of Malaysia attained several developments in the farming division industry, the advancement in the food division slowdown in the whole areas. Generation of food has unable demonstrated remarkable development because of numerous factors, for example less funding due to small profits by the reason that prices normally below, restricted state spending on food and excessive emphasis on export crops. These growths caused the food sector not attractive, contrasted with export crops that earned beneficent encouragement from the public and private sectors. Security generates constancy to producers, customers and the industry applicant show ever potentially unable becomes economic sustaining in the durable duration. The objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Previous literature explained the local food concept and agrochemical in some areas of the world. Deficiency of consciousness between growers relating to the cropping operation with the right and sensible utilizes of agrochemicals is further one of the major cause for small utilization of these goods in India marketplace. Growers in India have presently begun applying hybrid seeds, and this reason promotes raised utilization of agrochemical in the state. In present day, a lot of the recent production of agrochemicals is being supplied which bringing limited remain consequence or no remain impact components in the goods contrasted to different common goods that are being utilized in the state for centuries. The sum agrochemical marketplace in the year 2000 was approximately 4000 crore, 10,000 crore in the year 2012 and projected to be double in the upcoming 6 -7 years. Nearly 65 percent of the goods that utilized by growers are insecticides. Percent of herbicides in the preceding was almost 20 percent, which considers to get across 30 percent signifies presently. The percentage of the fungicides is further rising. India initiated obtaining great standard agrochemical nearly 10 years ago. This good created overseas, assessed and then imported in the state [6].

Particular operations, for instance the evaluation of soil achievement that was conventionally concentrated on empirical information and historical profits of the world to differentiate or recurring a crop are nowadays ascertained by soil assessment, efficiently rationalizing land use and reducing on plantation costs, enabling a growth in productivities. Custom planned irrigation arrangements are managed through software programs that control soil humidity and sprinkle fertilizers relying on the plantation and monitor to optimize the effectiveness of the sources consumed [7].

This part indicated the area particular problems or examined impacted regards the local food concept. In Malaysia, farming industry is predicted to perform a great important function in producing contributions to sustained economic development, poverty alleviation and domestic food safety. [8] Concentrates on organic agriculture and associates to local scope, for example 'lesser-food mileage' to defend customers and also to produce earning meanwhile promoting organic agriculture. The advantages of the concept are, the ecology and growers gaining as food transport and *packeting* are decreased and as biodiversity on farmstead

rise; local economies improving because selling from food would be maintained locally rather than going to wholesalers and supermarkets anywhere; small organic growers gaining from enhanced local selling, for instance direct marketing to customers giving growers a largest share of the retail price, while customers profit from a lesser retail price (when contrasted to the supermarkets); and traditional producers potentially elicited to change to small input organic approaches [8]. As stated to the Food Act 1983, Act 281, Laws of Malaysia, "food" consists all article manufactured, sold or indicated for usage like food or drink for human being usage or that enters inside or is utilized in the constitutions, preparation, conservation, of all food or drink and comprises confectionery, chewing materials and all substance of particular food, drink, confectionery or chewing materials [9,10] Stated that Malaysians and Singaporeans are food-obsessed; mention the topic of food with locals and it probably emerge that eating admit privilege throughout the whole thing in living. The multicultural customs of the provincial provide the food devotee a gastronomic undergoes as not any other, a mixture of herbs, spices, sauces and substances from a host of cuisines, all continuously lending from the other.

Whereas, Holm et al. [11] stated that self-sufficiency implies an exchange of greater local output and lower commerce with different regions, generating in a total decline in sum goods and services expended. Economists should supply way in order that advancement strategies will equalize the profits of differentiation and commerce with the costs of protecting the biological ecology and having a restricted diversity of economic efforts. Self-sufficiency is not useful or even possible, regardless sacrificing the variation of foods and outputs customers at present obtain, policy makers should remain to encourage commerce, aid growers in searching the greater gainful activities, and participate in the public policy discussion by advocating the value of accessible space and different facilities that are complicated for growers to acquiring in the price of their outputs.

2. METHODOLOGY

The research design was using Wilson concept analysis performed in 2016 until 2017 including 14 sources. It is concerned with the analysis of concepts or words rather than numbers. This method facilitates the systematic collection and

analysis of more subjective and narrative material. The literature was reviewed from various disciplines and published in several countries. The key words "local food, agrochemical and self-sufficient producer" were used to obtain literatures. Careful examination and comparison of data units abstracted through selective literature, thesaurus and dictionary review that published in 2005, 2010, 2011, 2012, 2013, 2014, 2015 and 2016. However, the sources that utilized in this paper only involved articles and websites. The Wilson concept analysis employed in this research consists of [12]:

1. Determine differences of attributes and internal structure.
2. Contrary cases is an instance that is absolutely sure not an example.
3. A related case is close to model case.
4. An invented case is if concept is rare or is very familiar.
5. Social context that is related to culture.
6. A practical result that is implications to make a difference in live.

This section will answer the question "How the analysis done?" which related to the method of local food and agrochemical concept analysis. This analysis uses Malaysia and other states to analyze local food and agrochemical concept. Ethics statements for this research is this study was approved by the Research committee of School of Government, Universiti Utara Malaysia (Approval no. ISO No. 666089)

3. RESULTS AND DISCUSSION

This section will answer the research question of local food and agrochemical concept that consists of the main argument about prove or claim or thesis statement of local food and agrochemical concept as well as the evidence.

3.1 Differences of Attributes

Local food as stated by [13] associated to the characteristics of geographic closeness that is merely one element of the local food interpretation. Yield approaches also marked as dimension of local food. The word derivation explains the approach or custom of yield that is applicable to local effects looks to acquiring the core of this element of the local food interpretation. Peoples yielded the food, in-between phases of the marketing channel (processing and retailing) also features of the

local food dimension. Result showed that local food concept dissimilar from *halal* food concept. *Halal* food denotes to cleanliness and healthful foods conformity with the principles of the Quran and *Sunnah* of the Prophet, *Ijma'* (agreement) and *Qiyas* (reasoning of similarity indicating to the *Syafie* or each of the *Hanafi*, *Maliki* or *Hanbali* School of thinking or religious order adopted by the related Islamic Agency) [14].

Whereas, agro-chemical concept is associated to monoculture present in rural regions that produce several things for example diseases and pests that need intensive short-period resolutions that are not sustainable. Soil has encountered degradation issue following some years of intensive agriculture exercises resulting from insufficient of biological birth rate. This situation raises the cost of synthetic fertilizer directly enhance cost of yield. Agrochemical material replace role for instance protection and nutriment supplied by fertile soils and living agro ecological that be transformed into large business for enterprises. Agrochemical exercises consist of the usage of agrochemical and decrease the contamination of soil and water. Utilize of local natural pest monitor that greater variation generates greater profit to protect ecosystem. *Polyculture* and rotation encourage agro diversity including completion ecosystem, as contradicted to traditional monoculture [7].

Agro-chemical concept dissimilar with biotechnology mainly concern to [15] that biotechnology is a method utilize life species or matters from those being to produce adjustments to the output for practical intention. Biotechnology employed to address difficulties in every district of farming yield and processing. These involve genetic improvement or plant breeding for:

1. Raise and balance yield.
2. Enhance immunity to pests, diseases and *abiotic* tensions for example dry spell and cold.
3. Strengthen the nutritious load in food.

Biotechnology employed to grow plant inputs that disease-free at small cost for crops for instance cassava, banana and potatoes including generate recent instruments for the diagnosis and solution of diseases of animals and plant involve measurement and preservation of genetic resources.

However, agrochemical relate with *halal* fertilizer to fulfil the demand of Muslim peoples. *Halal*

fertilizer refers to the good fertilizer with an accurate applying to the agriculture and soils that one significant technique to produce a better harvest while preserving the nutrients of the soil [16]. There are halal chemicals produce by the factory to fulfil the halal standard. Another halal fertilizer that natural bio-fertilizer and functions as a strong soil enabler, allows soil nourishment, contributes important nutrients to the plant. All this integrates to raise a sustainable ecosystem [17].

3.2 Internal Structure

Martinez et al. [13] stated that local is focused on marketing systems, for instance growers merchandising directly to customers at district growers markets or to schools. Yield of regionally marketed food is greater probability to take place on little farmlands situated in or nearby metropolitan regions. Generally, its include little growers, diversified outputs and quick delivery chain in which growers also execute marketing role involving storage, packaging, transportation, delivery and advertising. Vital components are local producer and local customer, while not important aspect is food processing by the manufacturer before it trade to the customer.

Omicgroup.org [18] States that agrochemical is a generic word to signify a diversity of chemical outputs utilized in farming. In most cases, the agrochemical indicates to a broad range of pesticides involving insecticides, herbicides, fungicides and nematodes. Agrochemical also indicates to synthetic fertilizers, hormones and different chemical development agents and condensed content of raw animal manure.

3.3 Contrary Cases

Prima Agri-Products Sdn. Bhd. is one of the manufacturers for *halal* food, developed as a Malaysian producer of quality *halal* food outputs. Prima has been in the downward operations of processing and manufacturing *halal* foods, concentrating on a deli range of outputs during 1987. The large range of quality *halal* outputs has place Prima on the very famous record of the *halal* food industry, and the enterprise at present has worldwide niche markets for its *halal* sliced assorted cold meats, gourmet sausages, pizza with pepperoni and sate via its collaborator, agents and suppliers particularly in the European Union, Asia and the Gulf area (GCC) [19]. However, Dot Com Tin Tree utilizing *fertigation* methods and compost for the cultivating of trees

to yield fruit tin cans. Fertigation Techniques employing Diy Automatic Watering Kits (set automatically flush tree) and Micro Sprinkler Fertigation Tin. Rain shelter house developed for Tin tree cultivating. Organic fertilizer namely Black Water *Nano* and compost specifically *Chitosan* employed in agriculture [20].

3.4 Related Case

Johor Bahru Farm united in 1982 was primarily established to breed cows for the merely aim of yielding milk for the Malaysia local market. Simpang Realty is an agriculture firms started the establishing of the Johor Bahru Farm. As the farmland was not producing every gain resulting from inadequate of milk from the cows, milk had to be purchased from the Malaysian Milk Collecting Center (MCC). Johor Bahru Farm, a producer turned to a purchaser and transformed the firms into a milk processing firms, processing fresh milk for the local market instead of yielding milk [21].

Cytec Solvay Group attempted to assist growers to enhance and preserve crop production via equipping farming industry with modern chemical technology to overcome the enhanced of tension and rivalry. Cytec Solvay Group output comprises of Polymer Additives, Specialty Additives and *Phosphine* Specialties [22].

3.5 Invented Case

Enhanced food safety and self-sufficiency as a policy for Malaysia to transform to a self-sufficient producer in local food is a created case. The framework of the aim is concentrate on raise need and connectivity to regionally farmed foods, enhance yield of regionally cultivated foods and offer strategy and institutional aid to fulfil food self-sufficiency demands. This aim is same to policy frameworks by Hawaii to enhanced food safety and self-sufficiency [23]. Trade-off to more local yield (food output that is farmed, yielded, or processed by peoples that trade directly to their supporter via farmland-centered trades or purchasing clubs, at growers markets, roadside stands, fundraisers or at society social events) and low sales with other regions. Marketing system is including growers trading directly to customers.

The usage of agrochemical suitably and securely is vital in farming operations to assure constant yield and enhance in profits. Secure usage of agrochemical following to [24] comprises

particular security throughout transmission and storage. Spray tool activity should clean and preserved to avoid spills. Usage pesticides securely also concerning the choosing of suitable items and usage agrochemical referring to the labels on the bottle. These guidelines able lessen the hazard and verify the applicability referring to the laws that legitimated.

3.6 Social Context

Social history for local food concept connected to provincial scope that concerned capability of individual in the province to eat locally relies on yield ability of the province. Individual that living in region that are agriculturally productive year-round potentially have an easier period sourcing food that is farmed or cultivated 100 miles from their residential [25]. Local food associated to fresher, healthier and better flavor food.

Agrochemical able assist offer secure and sufficient food for entire peoples. Agrochemical preserve plant from disease, pest and weeds thus assure higher and greater production. Customer demands food that fresh, greater quality and without disease including insect harm. Production regarded greater healthy, various and cheap for the whole inhabitants. Utilizing sustainable agrochemicals, developing nations able enhance food harvest [26]. Thus, the agrochemical associated to sufficient and healthy food.

3.7 Practical Result

This part comprises the benefit of local food concept assessment to discipline and human being knowledge. Impact to create distinction to Malaysian living is to design a policy for Malaysia to turn into a self-sufficient producer in local food. Grower or gardener that cultivates every crop or animal for local food and drink is Malaysian that the output is to be eaten inside a personal house of Malaysian which is the end individual to buy every output or preparation directly from a processor and citizen that does not sell again the good or preparation. Malaysia will capable to supply everything of Malaysians' demand, particularly food, for people without the assist of other people. The aims of the policy is concentrate on enhance want and connectivity to regionally cultivated foods, enhance yield of regionally farmed foods and generate strategy and institutional aid to fulfil food self-sufficiency demands. Self-sufficient in yielding local food capable attained through adopting agrochemicals

in a sustainable method. The usage of agrochemical potentially assist enhance production and yield plant in higher quality.

3.8 Discussion

This research is important to discover the latest definition of local food and agrochemical concept. Finding shows that there are many dissimilar opinions about local food concept. However, agrochemical concept associated with the production of agricultural products. Findings in this research contrasts from [27] which indicates that local food connected with organic yield where probable frequently as an extension from the exercise of non-chemical farming. Organic yield in local food allows reformation of marginal farming area via fertilization and conservation of native cultivars. Local food has wider nutrient availableness from eaten of out of season vegetables, enhanced fiber composition of entire dried foods and kernels involving diet diversity enrichment via eaten of ethnic foods. Local food also generates a sense of attainment concerning rising quality of life for developing nation societies. Local foods indicates every food or food output that is cultivated, produced, or processed by peoples who trade directly to their patrons via farmland-centered sales or purchasing associations, at growers markets, roadside stands, fundraisers or at society societal occurrences.

Finding implied that the local food concept distinct from *halal* food concept. *Halal* food denotes to hygiene and healthy foods accord with the teachings of the Quran and *Sunnah* of the Prophet as well as other sources. However, [28] that focus on different aspect in local food research found that the rise in accessibility of and concern in local food over the last decade has been combined by recent research findings. Notwithstanding there is an agreement on the cause explaining purchase local food, there are important deficiencies on other fields of human's understanding, for example the inadequate of a evident definition of determine local food. This is discouraging advance growth in the sector. Whereas, agro-chemical concept distinct with biotechnology notably denotes to that biotechnology is a method utilizes live organisms or contents from that organism to create transformations to the output for practical aims. However, [29] focus on different aspect regarding agrochemical has successfully repurposed an agrochemical for a new application using receptor engineering. The research anticipates

that this strategy will be applied to other plant receptors and represents a new avenue for crop improvement.

4. CONCLUSION

The concept of local food differs with other concepts in food aspects. Whereas, agrochemical different with several fertilizers' concepts. The findings display the current meaning of local food and agrochemical concept. Finding discovered that there are various different views about local food concept. However, agrochemical concept related with the cultivation of agricultural food. Finding signified that local food concept different from *halal* food concept. *Halal* food refers to hygiene and healthy foods conform to the teachings of the Quran and *Sunnah* of the Prophet as well as other sources. Whereas, agro-chemical concept different with biotechnology principally indicates to that biotechnology is a technique employed live organisms or substances from that organism to generate changes to the product for practical purposes. A recommendation for further research is focus on the local food and agrochemicals with respect to improved agricultural seed. There are numerous nations that low in agricultural production. Improvement in agricultural seed can help nations in the world to increase yield in farming activity.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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