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SUSTAINABLILITY AND ITS BENEFITS THROUGH PERMACULTURE AND AGRICULTURE MANAGEMENT

The purpose of this article is to summarize both the advantages and problems of implementing the concept of permaculture management and to develop recommendations for its implementation and improvement, particularly in agriculture. Research methodology. The goal set in the article was achieved using the following research methods: logical generalization and scientific abstraction, structural analysis, analytical method. The results. Permaculture can be noticed in contradiction of the intensive agricultural system, which ultimately keeps soil unfit for agricultural purpose, slowly decreasing the amount of soil ground appropriate for human tenancy. One of the important methods is to help alleviate the type of climatic alteration in developing a sustainable food scheme on account of sustainable permaculture and agriculture. Sustainable permaculture and agriculture is a vital factor that is progressively increasing its impact in the permaculture and agriculture field. It helps in achieving sustainability in the permaculture and agricultural system. Permaculture management can be explained as approach for managing land and natural resources for developing regenerative agriculture, rewilding and community resilience. This study assesses the sustainable permaculture and agriculture system and its history and its significance. This study focuses on efficiency of permaculture management for achieving sustainability in agricultural. Practical significance of research results. The practical use of the proposed theoretical and applied approaches to the formation and implementation of the concept of permaculture management will allow to increase the efficiency of agricultural management and provide the population with food. Permaculture management is necessary for brining sustainability in agriculture in terms of ensuring seed security as well as maintaining nutrition content in food resource for meeting nutritional requirements of community. Permaculture allow incorporation of diversity in food in terms of fostering cultivation of crops that are less famous and poorly cultivated for ensuring supply food resources for all communities. The major usefulness of permaculture is identified as, improved flexibility to environmental alterations, and enhanced human health and lessening of input expenditure. Sustainable agriculture helps to care for the surroundings and protect the earth's base of important natural resources. It also helps in developing and sustaining the productiveness of the soil level. Sustainability is the sort of approach in the matter of broad farming and it helps sustain into the kind of predictable future. In the broadest perception, sustainability comprises farm-oriented finances and the type of societal equity for the atmosphere. Financial sustainability makes reference to a feasible future in the field of permaculture and agriculture.

Keywords: *Sustainability, Management, Permaculture, Agriculture, Future*

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Introduction. The concept of permaculture management is introduced for combating with the issue of food insecurity and providing sustainability in terms of making farmers self-reliant for producing crops with high market demand as well as crops with low market demand. Based on specification of natural habitat permaculture management has allowed farmers to grow uncultivated food that play a vital role providing nutritional source to tribal and forest dwelling communities. Simultaneously, permaculture goes beyond just being an automatic set of values for managing all societies that can be operated to design sustainable systems. In

modern agricultural environment permaculture management not only ensures food security also manages food waste in terms of including variations in diversity of food. In modern agricultural system permaculture management ensure food security, seed security as well as ensure health and wellbeing of community by ensuring supply of nutritional food resources. Even though most permaculture authorities practice lesser, household scales, studies suggest that permaculture can be a productive and viable agricultural method. Permaculture management provides the scope to enrich bio-diversity in agricultural firms and minimizing carbon foot print due to agricultural activities for bringing sustainability in nature as well as ensuring availability of food resources to meet nutritional requirements of communities. Permaculture allow incorporation of diversity in food in terms of fostering cultivation of crops that are less famous and poorly cultivated for ensuring supply food resources for all communities.

Recently, considerable attention of researchers in the field of permaculture has been paid to the issue of implementing the concept of permaculture management. Despite the fact that this concept is a relatively new phenomenon, there is currently a rather rapid process of formation of the appropriate scientific school and opinion on this issue and the expansion of practice and implementation. This is what determined the purpose and main tasks for writing the article, namely, the analysis of the history of the development of permaculture management and the development of the main approaches to its implementation

Analysis of recent research and publications. Sustainable permaculture and agriculture are all about organic farming and agroforestry in the most sustainable ways. As stated (Liu, Bardzell and Bardzell, 2018), permaculture is used to explain an intended system of settlement and agriculture that has an objective to reflect the sustainability and interrelationships of natural ecological systems. The particular can even be founded on the level of considering regarding environmental services. There are several methods for increasing the sustainability factor of permaculture and agriculture. Permaculture can be noticed in contradiction of the intensive agricultural system, which ultimately keeps soil unfit for agricultural purpose, slowly decreasing the amount of soil ground appropriate for human tenancy.

These days, agriculture has an incredible influence on the atmosphere and this makes a substantial contribution to the kind of climactic alteration like deforestation and land degradation along with the scarcity of water and other processes. By improving the kind of sustainable food scheme will put into the same sustainable factor in human society (Krebs and Bach, 2018). For example, one of the important methods is to help alleviate the type of climatic alteration in developing a sustainable food scheme on account of sustainable permaculture and agriculture. Sustainable agriculture is certain to give a reasonable explanation to help the agricultural procedures to help suffice the increasing population in the context of the altering environmental phases (El Bilali, 2019). Permaculture attempts to consider a portion of the area comprehensively, combining every plant and animal living on it, and integrating that with societal organizations planned to promote long-term farming too. Each ingredient of a food-cycle is gone down into what it needs and what it delivers, and then each ingredient is collaged to shape a vigorously self-sustaining whole (Maye 2018). The concept of permaculture management is introduced for combating with the issue of food insecurity and providing sustainability in terms of making farmers self-reliant for producing crops with high market demand as well as crops with low market demand. As suggested, permaculture management has evolved for ensuring all types of nutrients in daily meal plan of an individual (Niyogi, Sushma and Venkatesh, 2017). Based on specification of natural habitat permaculture management has allowed farmers to grow uncultivated food that play a vital role providing nutritional source to tribal and forest dwelling communities.

Sustainable permaculture and agriculture are familiar to change from the three fundamental perspectives and it is the methodical assembly in achieving the type of food self-sufficiency and it is measured the kind of administration and the ideal medium in the sustaining

of the different rural communities. In such a case, the perception of clean sustainability is very innovative in the matter of farming, a type of agricultural discipline, and does not even in the agricultural guidelines in particular. USA has facilitated in determining the thoughts for the suitable assembly of the different practices and in the matter of the human societies to help maintain the growth of the numerous sustainable systems in specific (Bhandari and Bista, 2019). The term Permaculture was originated by David Holmren and Bill Mollison in the 1970s. They were from Australia devoted to the sustainable utilization of lands. Even though they first used the word, the principles of permaculture in the current format have been about since the first phase of the last century, and the methods that frames the central part of the permaculture system date back millions of years.

The word organic shows as the depicter in the matter of sustainable agricultural processes and it will help to emphasize the vigorous firm with balanced living and organic altogether. The term has a wider significance in the true sense and it is suitably operated as the sort of existing material in the matter of obtaining the different farming targets as part of the preventive definition that is frequently very much supplied in the present term (Fadaee, 2019). In that sense, sustainable agriculture is nearer for the other term meaning organic and it is broadly used in the organic chemistry field which refers to the study of the organisms in specific. Numerous scientists will persist in equating the expression on the subject of the modern meaning of organic chemistry in company with the study of the carbon-including components.

Permaculture lies upon three principles: watch over people, watch over the earth, and fair share. The principles build the base for permaculture design and are also originated in most conventional cultures (Yeboah, 2018). Simultaneously, permaculture goes beyond just being an automatic set of values for managing all societies that can be operated to design sustainable systems. There have been other historical impacts in the growth of the kind of sustainable culture and it has been the subject of research in the matter of link for the quality of food and the soil condition and also the aspects associated with human health complications. Such members are included in the medical area of the UK and they have been working the type of clinical experiments and researches in the case of the topics from the early phase of the last century. It has been the analysis of the society that human healthcare has been negatively impacted by the operations of poor soil organization and particularly in the matter of poor organic matter and organization.

Presentation of the main research material. Agriculture is one of the main industries in the globe and it facilitates in occupying over a billion people in generating money worth of the sort of food to be offered. The pasture and the cropland will absorb about half of the entire earth's livable land and will also give the type of habitat together with foodstuff for the numerous species (Rivett et al. 2018). Managing the operations in sustainable agriculture things can be conserved and renovated taking into account the crucial habitats and can even help to care for the watersheds and the quality of water along with the enhanced physical condition of the soil.

Unsustainable works have a kind of severe effect both on the people and the environment. However, the requirement for sustainable source management is growing urgently. There has been an increasing need for numerous agricultural essentialities and commodities and these are utilized with the emerging population of the globe. Permaculture and agriculture have a profound link with human societies and the world's economy and the type of biodiversity is one of the most vital frontiers in the fields of environmental conservation (Norton, Penzenstadler and Tomlinson, 2019). Agriculture has been the kind of usefulness in some countries and it is the exclusive way to protect the kind of biodiversity all the time.

In modern agricultural environment permaculture management not only ensures food security also manages food waste in terms of including variations in diversity of food. Permaculture ensure producing crops that as per the soil nutrients and provides strategies for

enhancing soil nutrients for increasing nutrient percentage or yield percentage of the crops and vegetables (Vitari and David, 2017). In modern agricultural system permaculture management ensure food security, seed security as well as ensure health and wellbeing of community by ensuring supply of nutritional food resources.

Taking charge of the natural environment requires protecting plants, soil, water, and all creatures that inhabit the outward of the earth. All living species are regarded as significant as humans are regarded as a little portion of an interrelated biosphere. Human residence and doings should be improved in synchronization with present ecosystems (Bhati and Makanur, 2019). More clearly, this is an indication of targeting for a conscientious use of sources. The environmental effect of mankind might be decreased by restraining utilization and taking away from the model of immeasurable financial development.

Things like pesticides and fertilizers and toxic farmhouse elements can simply destroy the fresh water and can inadequately impact the aquatic ecosystems in company with the grouping of the soil and the air. Furthermore, contaminated things can continue in the atmosphere for numerous years. There are more than a few pesticides to dislocate the synchronized process of people and wildlife (Roux-Rosier, Azambuja and Islam, 2018). The fertilizers can make desecrated the coral reefs and the nearby environment when gets adjoined to the water.

Permaculture can be used as a learning medium from which to expose and expand the kind of designs required to attain sustainability. Permaculture is different from other processes of farming as it is not exactly a set of realistic methods; it is a technique of thoughts and of accommodating to a specific ecosystem (Ferguson and Lovell, 2017). It will permit humans to live healthier and happier, to generate a more sustainable environment and to work more efficiently. The twelve useful design principles of permaculture are observing and interrelating, catching and storing energy, obtaining a yield, applying self-control and accepting response, using and valuing renewable services and resources, producing zero waste, designing from motifs to facts, integrating before segregating, using little and sluggish responses, using and valuing variety, using boundaries and valuing the marginal, resourcefully using and responding to modify.

There are several farming approaches like burning the fields and making usage of machines. It can give to the strengthening of the carbon emissions in the context of the whole environment. The Food and Agriculture institute in the United States of America is of the view that the livestock division is exclusively dependable for the highest level of the overall carbon discharge (Egan, Benyon and Thompson, 2017). Additionally, clearance of the land for farming can mainly supply to the kind of climatic alteration and the carbon that is reserved in the woodland is suitably discharged when things are not burnt or cut down.

Sustainable permaculture and agriculture are agricultural and a societal concept and it is the crucial agricultural perception that is sure to endorse the kind of environmental consciousness and can even be suitable for the contribution of the requirements in the context of human society. Permaculture is fundamentally the operations of increasing and maintaining crops without the usage of chemical fertilizers in a manner that replicates the environment and patterns that would come into view in their natural ecological system. This helps counteract the harmful influences linked with the major agricultural system and the usage of insect killers.

Even though most permaculture authorities practice lesser, household scales, studies suggest that permaculture can be a productive and viable agricultural method. There have been a small number of studies done on this issue and research is still restricted, but permaculture aspects might show to be useful for both the surroundings and small societies. Environment degradation has negatively influenced traditional agricultural practices as well as production of food. Changes in natural environment has initiated delays in seed germination as well as poor soil nutrient has led to poor nutrient quality in crops and vegetables. Permaculture management

provides the scope to enrich bio-diversity in agricultural firms and minimizing carbon foot print due to agricultural activities for bringing sustainability in nature as well as ensuring availability of food resources to meet nutritional requirements of communities (Rhodes, 2015).

The natural sources are getting contaminated eventually and things are polluted with the continuous machine handling in company with pesticide management and the suitable farming techniques in such a case of animal farming and horticulture. There will be the reduction of the world's resources and the earth will turn to something poisonous and dangerous for the living being specifically if things go on exactly (Giraud, 2021). Permaculture is the method of land management and beliefs that take on planning observed in affluent natural ecological systems. It comprises a set of design standards resultant with an entire system idea. It uses the standards in fields such as re-wilding, regenerative farming, and community flexibility.

It is assumed that by the next thirty years, the earth will require around seventy per cent more foodstuff than is presently being formed to sustain the increasing world populace. Sustainable agricultural methods go round optimally through natural resources while not damaging the atmosphere at all (Thomas, 2017). The scholars found that organic agricultural systems are somewhere more profitable from 22 % to 35 % for farmers than traditional methods. The cost of doing deals is approximately equivalent for the two methods: Organic agriculturists keep on chemical ingredients but replace work for chemical components.

At present, it is transparent than ever that humankind has to look after the surroundings by maintaining the natural resources appropriately and conforming that sustainable progress is at the front position of everything that has been done. Farmers might play a vital role in the "green revolution" and must take the prospects to speak up for the natural world wherever necessary.

Conclusion. Thus it can be concluded that permaculture management is necessary for brining sustainability in agriculture in terms of ensuring seed security as well as maintaining nutrition content in food resource for meeting nutritional requirements of community. Permaculture allow incorporation of diversity in food in terms of fostering cultivation of crops that are less famous and poorly cultivated for ensuring supply food resources for all communities. The major usefulness of permaculture is identified as, improved flexibility to environmental alterations, and enhanced human health and lessening of input expenditure. Sustainable agriculture helps to care for the surroundings and protect the earth's base of important natural resources. It also helps in developing and sustaining the productiveness of the soil level. Sustainability is the sort of approach in the matter of broad farming and it helps sustain into the kind of predictable future. In the broadest perception, sustainability comprises farm-oriented finances and the type of societal equity for the atmosphere. Financial sustainability makes reference to a feasible future in the field of permaculture and agriculture.

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СТІЙКИЙ РОЗВИТОК ТА ЙОГО ПЕРЕВАГИ ЧЕРЕЗ ПЕРМАКУЛЬТУРУ ТА УПРАВЛІННЯ СІЛЬСЬКИМ ГОСПОДАРСТВОМ

Метою цієї статті є узагальнення як переваг, так і проблем впровадження концепції пермакультурного менеджменту та розробка рекомендацій щодо її впровадження та вдосконалення, зокрема в сільському господарстві. Методологія дослідження. Поставлена в статті мета була досягнута за допомогою таких методів дослідження: логічного узагальнення та наукового абстрагування, структурного аналізу, аналітичного методу. Результати. Пермакультуру можна помітити в протиріччі з системою інтенсивного землеробства, яка зрештою зберігає ґрунт

непридатним для сільськогосподарських цілей, повільно зменшуючи кількість ґрунту, придатного для оренди людьми. Одним із важливих методів є сприяння пом'якшенню типу кліматичних змін у розробці стійкої схеми харчування за рахунок стійкої пермакультури та сільського господарства. Стала пермакультура та сільське господарство є життєво важливим фактором, який поступово збільшує свій вплив у сфері пермакультури та сільського господарства. Це допомагає досягти стійкості в системі пермакультури та сільського господарства. Пермакультурний менеджмент можна пояснити як підхід до управління землею та природними ресурсами для розвитку відновлюваного сільського господарства, відновлення дикої природи та стійкості громади. У цьому дослідженні оцінюється концепція формування системи пермакультури та її впровадження в управління сільським господарством, її історія та значення. Це дослідження зосереджено на ефективності управління пермакультурою для досягнення стійкості в сільському господарстві. Практичне значення результатів дослідження. Практичне використання запропонованих теоретико-прикладних підходів до формування та реалізації концепції пермакультурного менеджменту дозволить підвищити ефективність ведення сільського господарства та забезпечити населення продуктами харчування. Менеджмент пермакультури необхідний для забезпечення стійкості сільського господарства з точки зору забезпечення безпеки насіння, а також підтримки вмісту поживних речовин у харчових ресурсах для задоволення харчових потреб суспільства. Пермакультура дозволяє включати різноманітність у їжу з точки зору сприяння вирощуванню культур, які є менш відомими та погано культивованими для забезпечення продовольчими ресурсами для всіх громад. Основна користь пермакультури визначена як покращена гнучкість до змін навколишнього середовища, зміцнення здоров'я людини та зменшення вхідних витрат. Стале сільське господарство допомагає дбати про довкілля та захищати земну основу важливих природних ресурсів. Це також допомагає розвивати та підтримувати продуктивність ґрунту. Стійкість — це вид підходу до широкомасштабного землеробства, який допомагає підтримувати передбачуване майбутнє. У найширшому розумінні сталість включає в себе фінансування, орієнтоване на ферму, і тип соціальної справедливості для атмосфери. Фінансова стійкість означає можливе майбутнє у сфері пермакультури та сільського господарства.

Ключові слова: *стійкий розвиток, менеджмент, пермакультура, сільське господарство, майбутнє.*