

***DIGITALIZATION AGRICULTURE SUPPORT RESISTANCE NATIONAL IN
REVIEW FROM PLEASE THE 3RD PANCASILA******DUKUNGAN DIGITALISASI PERTANIAN TERHADAP KETAHANAN
NASIONAL DALAM TINJAUAN DARI SILA KE-3 PANCASILA*****Nikmatu Sakdiyah¹**¹Universitas Brawijaya

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ABSTRACT

Food security is a condition for satisfying the quality and quantity of food needs for households in a safe, equitable, and affordable manner. The relationship between population, natural resources, and the economy will realize harmonization that will realize food security and community welfare and have a positive impact on Indonesia's national resilience. This paper is the result of a review of various research results and literature compiled from the formulation of problems regarding how to realize agricultural digitalization strategies to support national resilience and whether agricultural digitalization is in line with the values of Pancasila 3rd precept. This paper aims to analyze agricultural problems through digitalization to support national resilience, contribute ideas to solve agricultural problems through agricultural digitalization to support national resilience, provide an overview of the realization of the 3rd precept of Pancasila through agricultural digitalization. This paper is prepared using a qualitative descriptive method. The analysis of data obtained from secondary data provides a description of the conditions of agricultural digitalization in Indonesia in the form of a narrative description. Smart farming provides agricultural solutions as an agricultural management concept strategy that utilizes the sophistication of digital technology with Artificial Intelligence (AI), agricultural tools and machinery, sensors, mechanization, and the Internet that can make it easier for farmers to do their work. Agricultural digitalization realizes food security for the Indonesian nation and encourages national resilience. Agricultural digitalization through smart farming provides solutions to agricultural problems in Indonesia. The agricultural digitalization strategy is designed to be implemented starting from upstream, cultivation, and downstream. Agricultural digitalization through smart farming fosters a sense of farmer unity and is in line with the 3rd precept of Pancasila.

Keywords: agricultural digitalization, national resilience, food security, smart farming.

ABSTRAK

Ketahanan pangan merupakan kondisi terpenuhinya kebutuhan pangan bagi rumah tangga secara aman, merata, dan terjangkau. Keterkaitan antara kependudukan, sumber daya alam, dan perekonomian akan mewujudkan harmonisasi yang akan mewujudkan ketahanan pangan dan kesejahteraan masyarakat serta berdampak positif terhadap ketahanan nasional Indonesia. Tulisan ini merupakan hasil telaah berbagai hasil penelitian dan pustaka yang dihimpun dari rumusan masalah mengenai bagaimana mewujudkan strategi digitalisasi pertanian untuk mendukung ketahanan nasional dan apakah digitalisasi pertanian telah sejalan dengan nilai-nilai sila ke-3 Pancasila. Tulisan ini bertujuan untuk menganalisis permasalahan pertanian melalui digitalisasi untuk mendukung ketahanan nasional, memberikan sumbangan pemikiran untuk menyelesaikan permasalahan pertanian melalui digitalisasi pertanian untuk mendukung ketahanan nasional, memberikan gambaran umum tentang terwujudnya sila ke-3 Pancasila melalui digitalisasi pertanian. Tulisan ini disusun dengan menggunakan metode deskriptif kualitatif. Analisis data yang diperoleh dari data sekunder memberikan gambaran tentang kondisi digitalisasi pertanian di Indonesia dalam bentuk uraian naratif. Smart farming memberikan solusi pertanian sebagai strategi konsep pengelolaan pertanian yang memanfaatkan kecanggihan teknologi digital dengan Artificial Intelligence (AI), alat dan mesin pertanian,

sensor, mekanisasi, serta internet yang dapat memudahkan petani dalam melakukan pekerjaannya. Digitalisasi pertanian mewujudkan ketahanan pangan bagi bangsa Indonesia dan mendorong ketahanan nasional. Digitalisasi pertanian melalui smart farming memberikan solusi bagi permasalahan pertanian di Indonesia. Strategi digitalisasi pertanian dirancang untuk dilaksanakan mulai dari hulu, budidaya, dan hilir. Digitalisasi pertanian melalui smart farming menumbuhkan rasa persatuan petani dan sejalan dengan sila ke-3 Pancasila.

Kata kunci: digitalisasi pertanian, ketahanan nasional, ketahanan pangan, smart farming.

INTRODUCTION

Food security is a condition where the quality and quantity of food is met. for households in a safe, equitable and affordable manner. Thus, food and food security become matter Which crucial for resilience national a nation. Food Agriculture Organization of The United Nations (FAO) has issued a warning regarding the global food crisis that is threatens the world's food supply chain due to the Covid-19 pandemic and the impact of the Russian war and Ukraine for the world economy in the form of economic recession and food crisis (Gunawan et et al., 2020). As country agrarian, agriculture in Indonesia become sector important in defense national.

According to Dance (2017) connection between resident, source Power natural, And economy will realize harmonization Which will realize resilience food And welfare public And give impact positive to resilience national Indonesia. Business in to establish availability food can done through improvement production. However, until Currently, agriculture in Indonesia has many problems regarding low productivity, low levels of... low income, and limited business capital (Wibowo, 2020). Another thing that becomes The problem is that the increasing population has an impact on the increase price food what is needed be aware Because threaten national resilience.

Along with technological advances in the agricultural sector, it is very helpful in cultivation process to post-harvest. Currently in several developed countries such as Japan,

the Netherlands, and China are actively implementing digital farming (Astrid, 2019). Smart farming is draft management agriculture Which use Artificial Intelligence (AI) in increase efficiency, productivity and sustainability in agricultural production processes. Smart farming 4.0 play a role in increase income profit for farmer And play a role to sustainability agriculture, Because can increase precision in giving input plant And land agriculture (Knierim et et al ., 2019). Digitalization agriculture has enter era revolution 4.0.

Indonesia's national resilience is a dynamic condition of the Indonesian nation which includes all aspect life national Which contain ability develop strength national in overcoming all challenges, threats and obstacles to ensure integrity And sustainability life nation as well as reach objective national. All form embodiment objective national nation must based on Pancasila as runway idyllic country Indonesia. By Because That, in effort develop strength defense national through digitalization agriculture must be based on Pancasila as source law. Digitalization agriculture supporting national defense in terms of Pancasila, the 3rd principle (the unity of Indonesia) which intended For increase welfare farmer in a way evenly all over area in Indonesia.

Writing This is results review various literature And results study Which arranged from various formulation problem about How strategy realize digitalization agriculture use supporting national resilience and whether agricultural digitalization is in line with

Pancasila values 3rd principle. By paying attention to the research questions, the writing which is the result of review from various literature This aiming For 1) analyze problem agriculture through digitalization to support national resilience, 2) providing intellectual contributions to solving agricultural problems through agricultural digitalization to support resilience national, 3) providing an overview of the realization of the 3rd principle of Pancasila through agricultural digitalization. This article is written using a qualitative descriptive method. Data analysis was obtained from data secondary with give depiction about condition Which digitalization agriculture in Indonesia in form description narrative. Benefit from writing This is as donation thinking For solve problem agriculture through digitalization agriculture use support defense national Which in line with Pancasila please the 3rd for various party.

METHOD

The research method used is Qualitative Research with types of research including: Descriptive Studies, Literacy Studies, Case Studies, Phenomenology, Ethnography, Narrative, Mix Method. Class Action Research is carried out a maximum of 3 cycles, consisting of planning, implementation, observation, and reflection. Data collection techniques must be described in detail such as observation, documentation, interviews, questionnaires, questionnaires which are also supported by relevant references.

RESULT AND DISCUSSION

a. Readiness farmer Indonesia And government do digitalization of agriculture through smart farming

Productivity of agricultural resources (farmers) in the growth phase of the 4.0

revolution era marked with ability pioneer business agriculture based industry 4.0. Farmer must own competent skills in increasing agricultural production (Hoediprasetyo, 2018). Hard skills Which needed For operate smart farming between other to master technology computerization and mechanization of agriculture, able to process big agricultural data , and creative in operate Internet of things (IoT). Soft skills Which needed For Carrying out smart farming, among other things, is able to build and expand cooperation networks agricultural business, fast communication access, and being able to adapt and assist development farmer other. If farmer No do acceleration ability in era industry 4.0 or in other words, if the farming business is still run traditionally, it will make the farming business not enough develop.

The majority of Indonesia's agricultural sector currently still relies on old farmers, this is will be a burden and obstacle in the development of agricultural digitalization. Naturally farmer old calm down will reduce And not enough maximum in manage land his agriculture, besides that, adaptation to the use of agricultural technology will be left behind because farmers Older people do not get enough and up-to-date education and information in operating technology (Nursyamsi, 2019). Matter This open outlook that regeneration farmer become something urgent to do. Problems experienced by young farmers is not own capital Work, No own network market, experience cultivation Which not enough, uncertain income depending on the weather and lack of confidence because of farming considered less prestigious.

Smart farming provides agricultural solutions as a strategic management concept. agriculture that utilizes sophisticated digital technology with Artificial Intelligence (AI),

agricultural tools and machines, sensors, mechanization, and the Internet that can make it easier for farmers to do their job. In the implementation of smart farming will have a positive impact, namely farmer Can to obtain data Which required use identify And analyze problems with plants or the surrounding environment, and the right actions to avoid them. from high production costs, poor product quality, low productivity, to failure harvest (Wangsaatmaja, 2019). Likewise with the use of mechanization tools and machines agriculture give influence Which Enough big to productivity. Government has make an effort For can fulfil need tool And machine agriculture to various remote area area in homeland.

Ministry Agriculture Republic Indonesia moment This Already notice And promote distribution technology information And communication Which integrated until to area (provinces and districts) for data integration throughout Indonesia, as a form of seriousness government to matter This in arrange it Instructions President Number 3 Year 2003 About Policy And Strategy National E-Government as well as Regulation President Number 39 Year 2019 about One data Indonesia. Action carry on from Regulation President Number 39 Year 2019 about One data Indonesia, so Ministry Agriculture Republic Indonesia together Service Agriculture Province/District/City has utilise technology

digital based on Technology Information (IT) like Agriculture War Room (AWR). Utilization AWR supported Also by mechanization agriculture through the use of agricultural tools and machines both in the cultivation process and after harvest. Government Also has do transform data collection Plan Definitive The subsidized fertilizer group requirement (RDKK) which was previously manual has become an eRDKK system. integrated System Counseling Agriculture (Simluhtan). In general overall, government center and also area has Ready For do digitalization agriculture, although must Keep going do improvements and breakthroughs in several areas in order to realize digitalization of agriculture evenly in all areas in Indonesia.

b. Strategy realizing digitalization agriculture use support resilience national

Analysis SWOT (*strength, weaknesses, opportunity, threats*) is A drafplanningthrough evaluation on *strength* (strength), *weakness* (weakness), *opportunity* (opportunities), and *threats* (threats) in a formation that can produce the best strategy. For overcome problem. In study Wowiling (2022) has give analysisSWOT to digitalization agriculture use support resilience national as following: **Table 1.** Analysis SWOT digitalization agriculture support resilience national (Source: Wowiling, 2022)

Strength (Strength)	<ul style="list-style-type: none"> - Already availability Smart farming - Commitment Ministry Agriculture Which strong For sector agriculture Andtransformation digital - The existence of help tool And machine agriculture - The existence of training farmer
Weakness (Weakness)	<ul style="list-style-type: none"> - The difficulty do socialization digitalization agriculture in rural - Not yet existence commitment cooperation Ministry Agriculture withdevice village - Allocation budget government Not yet adequate - Apparatus Civil Country (Ministry of And Province/District/City) Not yet understand digitalization agriculture
Opportunity (Opportunity)	<ul style="list-style-type: none"> - Indonesia as agricultural country - Support digitalization agriculture from college high, banking, Andprivate - Growth children's interests young to digitalization - Improvement request product agriculture
Threats (Threat)	<ul style="list-style-type: none"> - Change climate - Limitations capital farmer For build system Smart Farming - Age farmer Which Already old - Level Education farmer low - Literacy farmer about Smart Farming low - Penetration import market through digitalization

From analysis SWOT on Then Wowiling (2022) give analysis strateg Implementation of agricultural digitalization to support national resilience as follows:

Table 2. Strategy implementation digitalization agriculture use support resilience national (Source: Wowiling, 2022)

Strategy S+O	<ol style="list-style-type: none"> 1. Increase utilization Smart Farming in help farmersell the product 2. Push Ministry of Agriculture multiply cooperation digitalization agriculture with the university high, state-owned enterprises, and private 3. Increasing the intensity of virtual digitalization training and to be continued with practice field Good for farmer old and also candidatefarmer young
Strategy W+O	<ol style="list-style-type: none"> 1. Create approaches Which more current through cooperationMinistry of Agriculture and universities, state-owned enterprises and the private sector in carrying out socialization digitalization agriculture. 2. Ministry of Agriculture cooperates with BUMN, Banking and the private sector to obtain financial assistance support, including through Credit Business People (KUR). 3. Ministry Agriculture facilitate to weave cooperation farmer with universities, state-owned enterprises, and private companies to create agricultural models digital scale demonstration plot moreover formerly Which Can made into as example.

<i>Strategy S+T</i>	<ol style="list-style-type: none">1. Giving help equipment and fittings smart farming on farmer which interested and has been given literacy smart farming .2. Maximize benefit smart farming in face change climate through equipment sensor on location land.3. Ministry of Agriculture Keep going do monitoring amount production results in country with need public, And prioritize product in country for export
<i>Strategy W+T</i>	<ol style="list-style-type: none">1. Formulate policy in accordance with development technology2. Do calculation accurate in apply digitalization agriculture through smart farming.

Strategy implementation digitalization agriculture This designed with careful so that implemented from upstream to downstream. The government has initiated a priority agenda national “ making Indonesia 4.0 “ which is the gateway to openness in the technological era so that Indonesia is able to increase its competitiveness as well as an arena to prepare Indonesia enter revolution industry 4th, However until moment This its implementation Still Far from satisfying. Lots farmer Which new on stage introduction even The same very Not yet recognize digitalization in field technology agriculture (Bachtiar et al., 2020). If compared to China and Thailand, Indonesia is still far behind. The rapid amount resident, the difficulty regeneration in level farmer, limitations land make farmer it seems that it is no longer possible to use conventional methods (Arkeman 2021).

c. Values Pancasila please the 3rd

Mark Which contained in please Unity Indonesia No can separated with the other four principles because all the principles are a systematic unity. The principles Indonesian unity is based on and inspired by the principle of “Belief in One Almighty God and Humanity Which Fair And Civilized” as well as underlying And imbued with please “People’s Which Led by Wisdom Wisdom in Deliberation or Representation” and “Social Justice for All Indonesian people.” This third principle has

the intention of prioritizing unity or harmony for all Indonesian people who have differences in religion, ethnicity, language and culture. So that it can be united through this principle, which is different but still one or is called diversity Single Ika.

Unity Indonesia prioritize interest And safety country rather than the interests of individuals or groups such as political parties. What is meant is very love the homeland of Indonesia and be proud to make Indonesia’s name famous. This principle instills the nature of unity to create harmony among the Indonesian people. Please have it The banyan tree symbol means maintaining order based on freedom, eternal peace, and social justice for all Indonesian people. In the values of Unity Indonesia contained mark that country is as incarnation characteristic nature man monodualism that is as creature individual And creature social (Ariana, 2019). Country is an association of living together between the elements that form a state in the form of ethnicity, race, group, class, or religious group. Therefore, differences are is default nature man And Also is characteristics typical elements Which to form country.

Indonesia is a diverse country because it consists of many tribes, cultures, race, And Language. The Age Which Keep going develop enter era globalization, No close possibility existence culture outside Which enter to in country This And melt in culture nation. The

state overcomes all understandings of groups, ethnicities, tribes, races, individuals, and groups. religion. Overcoming in the sense of providing a vehicle for achieving the dignity and honor of all its citizens. The state provides freedom to individuals, groups, tribes, races, and social groups. religion to realize its full potential in an integral communal life. Therefore, the objectives of the state are formulated to protect all its citizens and all spilled his blood, advance welfare general (welfare all over its citizens) to make smart life its citizens, as well as the relation with socializing with nations other in the world to realize a world order based on eternal peace and justice social (Kaelan, 2016).

The value of Indonesian unity is based on and inspired by the principle of “Belief in One and One God Just and Civilized Humanity”. That is contains the value that nationalism Indonesia is nationalism religious that is nationalism Which moral “Deity Which Maha One”. Nationalism Which humanistic Which uphold tall dignity And dignity man as creature Lord (Nishom, 2021). By Because That values nationalism This must reflected in all aspect organization Countries included in era reform mature This. Process reform without being based on divine morals, humanity, and upholding unity and unity, it is not impossible that it will bring destruction to the Indonesian nation, such as This has been proven in other nations, for example Yugoslavia, Sri Lanka and so on (Razif, 2021).

d. Digitalization agriculture in harmony with mark Pancasila please the 3rd

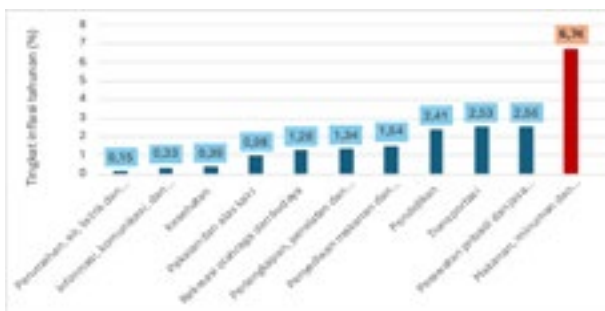
Pancasila please the 3rd that is “Unity Indonesia”, underpinning flavor unity all over public Indonesia in operate role as inhabitant country. Pancasila very uphold tall unity nation Which means that Pancasila Also become

tool unifier nation Indonesia. On please third show, that nation Indonesia own Lots very differences. In agricultural practices, there are many differences due to customs, culture, and community traditions. These differences give rise to a diversity of traditional agricultural practices. Which good as cultural wealth (Taniredja, 2014).

This traditional agricultural culture is good to always be developed and preserved accompanied by with technological advances so that Indonesian agriculture can meet national food security. Flavor unity For realize objective national that is resilience food can nurtured through digitalization agriculture Which evenly in all over Indonesia (Goddess, 2021). The farmer Good old and also young own awareness that management agriculture Which Good will bring profit And welfare for farmers and the community. Increasing agricultural production will have an impact on improvement economy And welfare nation Indonesia Which will push resiliencenational.

Difference culture in processing agriculture in Indonesia can in unite by program government in the form of digitizing farmer data and capital loans, namely the Farmer Card. With the existence of The Farmer Card functions as a means of accessing integrated banking services for farmers. functions as a farmer’s identity card, access to savings accounts, transactions, loan distribution until functioning as card subsidy (e-wallet) Which functioning Also as mitigation risk in credit disbursement because credit allocation has been regulated according to its intended use (Chakim et al ,.2019). The Farmer Card has advantages including being a multi-level validation process on line, transparent, And multifunctional. E-wallet This is savings Money electronic Which onlycan be transacted on the EDC (Electronic Data Capture)

machine provided by the bank official retailers or often referred to as Complete Fertilizer Kiosks (KPL), but this e-wallet does not can be withdrawn in cash so that it is in accordance with the subsidized fertilizer shopping quota and also functions as facility monitoring credit (Abiwodo, 2021).



Picture. 1 Distribution card farmer in all over Indonesia (Source: Abiwodo, 2021)

Digitalization agriculture is objective national in support embodiment resilience national. Matter This in harmony with Pancasila please the 3rd, Because through digitalization for farmer have the awareness to work together and unite to realize food security for resilience national. The importance of food for the people by Ir. Soekarno stated “ food for us is matter of life or death” (Brata, 2017) . If not managed wisely, it will have an impact radical potential of revolution that will endanger national resilience. Ir. Soekarno’s statement very fundamental due to food availability in terms of quantity and quality will realize resilience national nation Indonesia. If resilience national tough will push success Development national And to strengthen resilience national.

CONCLUSION

Pancasila please third own meaning put interest together on personal interests, sense of sacrifice, love of country, sense of nationalism, maintaining order world, And to raise diversity

Single Ika. Digitalization agriculture is objective national in supporting the realization of national resilience. This is in line with the 3rd principle of Pancasila, Because through digitalization for farmer own awareness For Together And United realizing food security for national security. Digitalization of agriculture realizes resilience food for nation Indonesia And push resilience national. Digitalization agriculture through smart farming provides solutions to agricultural problems in Indonesia. Strategy digitalization agriculture designed so that implemented start from upstream, cultivation, And downstream. Digitalization of agriculture through smart farming fosters a sense of farmer unity and harmony with Pancasila please the 3rd.

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