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Pranatamangsa Agricultural Accounting: Regulated Fees as Guarantees for Farmers' Income at Cost-Revenue Exchange Rates

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Abstract:
Research aims: *Pranatamangsa* calendar as a local wisdom genius to determine agricultural accounting for farmers' income.
Design/Methodology/Approach: A qualitative method with an ecophenomenological approach is used to reveal season markers.
Research findings: Agricultural accounting presence through yields calculation embodies Farmer Exchange Value as income, with the use of *pranatamangsa* to increase crop yields. This calculation is based on the calculation of planting costs to make the cost components that can be calculated, namely input and output costs to be managed by farmers as a formulation of farmer income, which is about costs paid (Ib) with prices received (It) added to the season factor as cost-revenue exchange rate determinants.
Theoretical contribution/ Originality: Agricultural accounting becomes an aspect that is based on concern for setting seasons. Disclosure or reporting of seasons through *pranatamangsa* agricultural accounting reports, namely the cost-revenue exchange rate as farmer income.
Practitioner/Policy implication:
The formulation that becomes farming income is by multiplying the amount of rice production by the selling price of rice per ton. Formulation by taking into account the season factor as a determinant of the amount of harvest production produced. This formulation produces integrated, complete and relevant agricultural accounting information based on season markers.
Research limitation/Implication: It is necessary to further develop the results of public awareness as a form of the presence of agricultural accounting. Furthermore, research methods can use a case study approach and ethnomethodology based on participant observation as a complete source.
Keywords: *Pranatamangsa* agricultural accounting, farmers' revenue, administrated cost, and cost-revenue exchange rate.

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Introduction

> ...agricultural activities related to the government's role in protecting farmers with climate factors that are also considered. Accounting presence is based on gross margin with the support of agricultural extension programs (Mulyani et.al, 2020)

The results of the research above indicate the presence of agricultural accounting for farmer activities. Activities based on monsoon climate concerns and their relationship with government policies and

farmers (main actors). This condition is in line with what was stated by Soetriono & Suwandari (2016) and Anwar & Firmansyah (2020) regarding the characteristics of the social and climatic environment as farmers' concerns in responding to policies and farming activities into a single unit. Farmer's relationship with climate is a means of supporting activities in determining when to plant the planting season and managing planting activities. This concern is a calculation as stated by Radianto (2020) called agricultural economic fundamentalism, meaning the linkage of economic calculations in agricultural activities that support each other in achieving common development.

This relationship shows that the two sectors support each other in supporting the success of the planting season to the harvest. The success of farmers in determining the calculation of this activity provides available planning to anticipate harvest failures. This anticipation provides a calculation of the suitability level of costs to be incurred. The suitability is in line with the explanations of Gustaman (2020), Anwar & Firmansyah (2020) and Suarsa et.al (2021), namely the self-element of the farmer having calculations about planting activity, and anticipation of failure based on the experience of determining the season which is believed to make guarantees until the harvest season. Guarantee to account for the entire cost incurred with the results obtained. This ability shows that farmers have calculations in determining planting activity as a calculation of the results obtained. Guarantee to account for entire cost incurred with the results obtained. This ability shows that farmers have calculations in determining planting activity as a calculation of the results obtained. Predictions that refer to Gokgoz (2012), Barokah et.al (2014), Andreev (2019), Kumar et.al (2020) as the relationship between costs and income by calculating overall planting activity with seasonal support as a guarantee that failure will not occur. The harvest failure factor makes farming costs greater than the expenses incurred in harvest results. Attention to harvest is the ultimate goal in providing a price for results of business that has been carried out. Price is a calculation setting that provides income for farmers based on expenses with attention during the planting process (Doğan et.al,

2013;Kurniawan et.al, 2014; Harjito et.al, 2016; Pawlowska-Tyszko & Soliwoda, 2016; Mulawarman, 2020; Suarsa et al, 2021).

Furthermore, the price calculation refers to Badu et.al (2021) on the harvest pricing which is based on accumulated calculation of costs during land processing, seeds and water availability as well as fertilizers and pesticides. The elements of costs recorded in the Farmer's Exchange Rate (FER) are based on the area of land used. This FER element reflects the farmers welfare. This is because the costs index that must be paid by farmers (Ib) is higher than the prices index received by farmers (It). This Ib and It relationship forms the formulation of the Government Purchase Price (GPP) which is determined to be received by farmers. The basis for setting prices must be balanced with the innovative capabilities of farmers to empower cooperation with the receiving industry in a timely and beneficial manner. Conditions based on the price aspect are always a consideration for farmers, because according to Izzah et.al (2018), Livanova et.al (2018), Mulawarman (2020) and Mulyani et.al (2020) that generally the condition of farmers' farming capital is weak, so will carefully allocate its budget for priority matters.

Therefore the pricing aspect is the main one in agricultural accounting calculations based on expected expenditure and income (Agyemang et.al, 2018; Anwar & Firmansyah, 2020; Gardher, 2021). The situation is further focused on according to Badu et.al (2021) as the price of receiving farmers' harvest. This price is basis for correlation between the farmer and the receiving buyer. Pricing makes the calculation of the price of a product as production costs plus profit or risk costs. Production costs include all costs incurred from the time of land clearing to transportation, some even add to the planning costs, meaning that the determination of costs is based on the initial activities when the process starts the planting season. Conditions like this are the result of farming which is called production (Al-Sharafat, 2016; Ndemewah et.al, 2019; Badu et.al, 2021). Agricultural production technically uses input (cost) and output (income).

Input and output are related to costs (cost) and revenue (revenue). Agricultural activities and the main cost subsystem are activities (hard work and skills) of farmers and their families, then the main income is results value used for farmer's life own family. This formulation takes into account cost considerations and environmental conditions during the planting season. Why is that? Considerations regarding the costs that must be incurred are influenced by the environment of rice plant to reduce the harvest failure factor. According to Fidiyani & Kamal (2012) and Gustaman (2020), the rice planting season is heavily influenced by the farmer's *pranatamangsa* calendar in determining the expected start of planting. The belief that gives togetherness in the planting season with the risk of harvest prices becomes uncertain, but what is prioritized is to avoid harvest failure.

Gustaman (2020) further explained that the *pranatamangsa* planting calendar refers to collective agreement activities in determining the planting season based on determining the month count. The calculations are sometimes based on determining the universe's signal as the embodiment of the symbol's interpretation. Symbol interpretation as stated by Pamungkas et.al (2018) as a rituals. Furthermore, the ritual is an aggregation of symbols, meaning that ritual symbols will help correctly explain the values that exist in society and will eliminate doubts about the truth of an explanation based on signal and environmental beliefs.

The *pranatamangsa* ritual symbol is based on the long shadows of objects illuminated by the sun and the appearance of stars in the night sky. Therefore according to Sindhunata (2011) as a symbol based on astronomical and meteorological aspects which underlies that one *pranatamangsa* period consists of 365 days or 366 days which are divided into 12 seasons (*mangsa*). The names of each season are in order, namely *kasa* for season I and *kasapuluh* for season X. Seasons XI and XII are named *dhesta* and *sadha* which are the names of the last two months in the ancient Indian calendar. The number of days for seasons I to VI in order are 41, 23, 24, 25, 27, and 43 days. In the following six seasons, the order was reversed. Exceptions apply to season VIII which is 27 days or 26 days old.

So, the number of days from season VII to XII is 43, 26 or 27, 25, 24, 23, and 41 days. Calculations based on the length of the shadow of objects illuminated by the sun and the appearance of stars in the night sky.

Furthermore, Wahyudi (2012) and Fidiyani & Kamal (2012) explained that if season VIII is 26 days old, a *pranatamangsa* period has 365 days called a *wuntu* year. This condition is like a basit or short year in the Gregorian or Hijri calendar. If season VIII has 27 days, a year has 366 days and is called a *wastu* year, the same as a leap year or long year. According to Sindhunata (2011) and Gustaman (2020), this marker for the *pranatamangsa* season in the agricultural calendar gives confidence in successful planting as a result of farmers' income. This income is an overall calculation on the Farmer's Exchange Rate (FER) which is obtained based on the results of previous harvests. Experience influencing activities in the calculation of expected yields. This process is a way that farmers do in determining the risks and yields as income. This relationship shows that the calculation of cost revenue is at the exchange rate, meaning that the yield is determined from the calculation of all costs that have been incurred in the hope that pests and harvest failures can be avoided by following *pranatamangsa*. Beliefs that are based on the process carried out in producing the planting process until the harvest is successful.

This belief makes the calculation of the cost-revenue exchange rate a unity in generating income. *Pranatamangsa* in calculating the cost-revenue exchange rate is in line with the farmers' calculation efforts based on pre-harvest (pre) and post-harvest (post) targets. The pre-harvest target is the highest yield, as the first stage (physical) target. The second target is the economic target (final) regarding the maximum possible income or profit per unit area of land cultivated (Barokah et.al, 2014; Mihalciuc, 2017; Andreev, 2019; Kumar et.al, 2020; Anwar & Firmansyah, 2020; Badu et.al (2021). Why is that? Because the highest yields do not necessarily provide high incomes or profits, the optimum action in an effort to provide the highest yields, that is not necessarily the optimum action in an effort to provide the most income or profits, is also not necessarily the action that

produces the highest yields. **The formulation and purpose of this study** is how the physical optimum of agricultural accounting in the *pranatamangsa* period in determining the costs that are regulated as guarantees for farmers' income at the cost-revenue exchange rate. Income with the *pranatamangsa* approach provides proper management in farming activities. Activities as stated by Izzah et.al (2018), Gustaman (2020), Mulyani et.al (2020), and Suarsa et.al (2021) as the period of farmer income are taken into account. Calculations are based on the process of planting to harvesting, meaning income as a harvest exchange rate. This value must be greater than the total effort to produce the product represented by the accumulated cost of all components of the operation. So, according to Suwardjono (2016) that every time costs occur at each operational level, a number of income has been formed proportionally, namely costs that occur during routine activities. In other words, once the costs are processed (following the physical flow of activities) income has started to be generated.

Literature Review

In accounting, revenue represents achievements and costs represent effort in producing a harvest. Yield as a concept of effort and yield has the implication that income is generated by costs (Andreev, 2019).

The basic concept of effort and results is as stated by Suwardjono (2016) that only with costs can income be created and not the other way around revenue assume expenses. The determining process cost is the basis for farmers work in determining the planting activities carried out. Planting activities form the basis for determining income yields with expenditures made The process of the two activities that go hand in hand with attention to the environment as a guarantee of the success of the planting process (Barokah et.al, 2014; Livanova et.al, 2018; Badu et.al, 2021; Gardher, 2021)**.** Guarantee of success as a relationship between the intensification of costs that must be paid by farmers (Ib) with the price index received by farmers (It), whether in the form of fertilizers, seeds, medicines or other things aimed at increasing harvest yields and income.

The relationship between Ib and It makes the action more intensive, the physical and economic targets at first increase, until it reaches its peak then decreases if the intensification of the economic optinum level is generally reached first, than the economic optimum level income or profit will decrease, even though the yield is still increase depending on the growing season. The relationship between the influence of growing season with yield and income shows the dependence of farmers' crops on the environmental conditions of current season.

Seasonal dependence guarantees harvest yields based on the certainty of farmers' calculations in determining the amount of costs incurred and future income. Certainty as stated by Kumar et.al (2020) and Anwar & Firmansyah (2020), that the decrease in income or profits is due to an increase in the land intensification level above the economic optimum level of the planting environment conditions carried out. Conditions that indicate the input value added is greater than the added value. **Figure 1** can provide clarity on this:

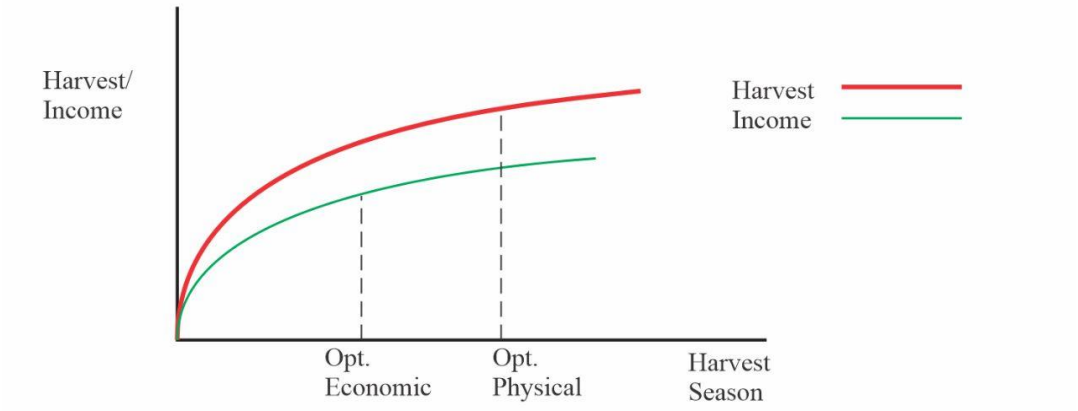

Figure 1: The Relationship between Harvest Levels and Farmer's Income

The explanation shows that by increasing intensification with the aim of increasing yields as well as increasing income, this can only be achieved before the economy optimum level is reached in the growing season. Increasing agricultural output again with intensification levels above the economic optimum level can only be achieved through sacrifices during the growing season. This is the reason why farming efforts to increase harvest by increasing intensification in

areas where harvest are already high often do not get a response, even though it is still technically possible.

Physical targets and economic targets can be maximally achieved together if the physical optimal level and economic intensification is also accompanied by the planting season determination as an *pranatamangsa* indicator. *Pranatamangsa* determination, namely the seasons arrangement as an agricultural calendar system in Java.This seasons division has been used by the Javanese since they were familiar with irrigated agriculture thousands of years ago, long before the arrival of Hindus to archipelago. However, this knowledge was only recorded during the reign of Sri Susuhunan Paku Buwana VII on June 22, 1855 (Wahyudi, 2012). The 12th *pranatamangsa* season (*Kasa*, *Karo*, *Katelu*, *Kapat*, *Kalima*, *Kanem*, *Kapitu*, *Kawolu*, *Kasanga*, *Kasapuluh*, *Dhesta*, *Saddha*) grouped into four main seasons (*mangsa*). The four main seasons are the third or dry from seasons I-III, *labuh* or *pancaroba* from dry to rainy (season IV-VI), *rendeng* or rainy (season VII-IX), and *mareng* or *pancaroba* from rainy to dry season (season X-XII). As explained in **Figure** 2 as follows:

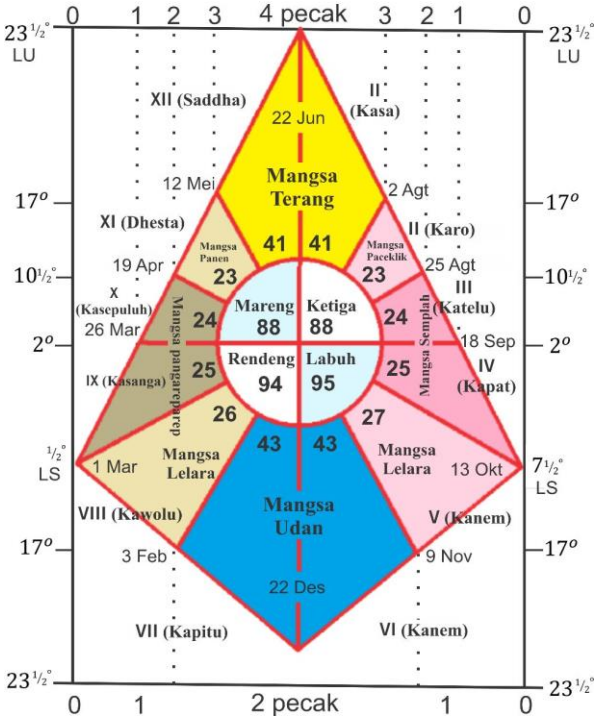

Figure 2: *Pranatamangsa* Cycle

The explanation as shown in **Figure 2** shows that one *pranatamangsa* period is also divided into four parts of other large *mangsa*.The four major parts of the season are *terang* or clear-sky periods of time in seasons XII and I, *semplah* is a period of despair (seasons II-V), *udan* or rainy periods (seasons VI-VII) and *pangareparep* or hope period (seasons VIII-XI). The beginning of *semplah* or season II period is called *mangsa paceklik* or food shortage. The following six months, the *pangarearep* period beginning or season VIII, is the flood season. Otherwise, *semplah* at end season or season V, it is said to be *mangsa lelara* or a lot of diseases. Six months later, at the end of *Pangareparep* or season XI, it is harvest time.

Furthermore, Sindhunata (2011), Wahyudi (2012) and Gustaman (2020) explained that farmer's basic determination in paying attention to *pranatamangsa* is an indication of sun position and shadow length. A position that provides awareness of natural conditions that is easy to use as a benchmark is season I starting on June 21, when the sun is at its farthest point from the equator in the Northern Hemisphere or 23.5 degrees North Latitude. This time marks the start of summer in the Northern Hemisphere and winter in the Southern Hemisphere. Determination that shows a close relationship between farmer activities with the climate and the surrounding environment. *Pranatamangsa* helps farmers to plan the planting season in the rice field processing phase, the planting process to harvest. This design provides benefits in generating income from a successful harvest. Adapting to nature's instructions makes farmers good at dealing with deficiencies due to haverst failures and strong in accepting harvest yields.

This relationship provides the Farmer's Exchange Rate (FER) as a income level measure that can be maintained to even increased. The FER calculation is based on the cost index that must be paid by farmers (Ib) according to calculations without any failures due to pests and environmental disasters (floods) which are the same, or even lower than the price index received (It). In practice, this situation according to Soetriono & Suwandari (2016) must be maintained and

improved. Farmers' income is calculated based on the total harvest produced before and after cost calculations. As long as the harvest price is constant, price and marginal revenue are the same. If the marginal cost exceeds revenue, the processing and post-planting will exceed the amount earned. Therefore according to Radianto (2020), Hoesada (2021) and Badu et.al (2021) that attention aspect to the planting environment is a guarantee for farmers success. Because the relationship between process and post-harvest becomes a single entity that influences the success of farmer income and risk adequacy on climate (rainfall, temperature and institutional), biology (pests, diseases, weeds and genetic potential) and soil (type, topography and slope).

These relationship factors make attention to the growing season's environment important. Expenditure calculations can be anticipated in accordance with the previous period's planting activities. Climate dependence in affecting harvest yields shows two things, namely weather forecasting and agricultural forecasting as one unit. These two aspects serve as guidelines for the work of farmers who can be accounted for in paying attention to *pranatamangsa*. So, climate can be positively correlated in influencing rice plants to a given harvest. A certain level of a climatic factor that has the best influence on the growing season can give maximum yield. That is, something that is optinum will give something else that is maximum, both from a physical and an economic point of view, so that there is a physical and an economic optinum (Soetriono & Suwandari, 2016).

Research Method

Linking agricultural accounting to farming activities and climate is an aspect that is taken into account in obtaining farmer income. Both aspects show the attention of farmers to take into account the overall cost as a harvest calculation (Anwar & Firmansyah, 2020; Suarsa et.al, 2021).

That is, agricultural accounting becomes an aspect that is based on concern for setting the season. In this case, the sustainability aspect is seen as an activity of an existing phenomenon. First, it is necessary to emphasize the meaning of the ecophenomenological method, to understand objects or objects with their own material values. It aims to "embrace" the farmer as a guide to understanding the

seasonal settings that affect farming as a phenomenon. Second, the farmer's attention to these season markers seeks an essential understanding of the agricultural calendar. The two steps which are stated as a research results of Prasetyo's (2020; 2021) emphasize that hidden things about subject of the environment existence can only be known through the phenomenological method, because only through ontology phenomenology is it possible, to show the relationship between humans and natural conditions. The subject's noematic awareness shows natural reality as it is and isn't influenced by decisions, or subject's values. The subject exists through its involvement with nature. That is, the subject understands clues value to natural conditions. This is done through reflection on farming which depends season markers. So as meant by Gustaman (2020) that farmers' awareness cann't be separated from their interaction with the planting season.

Therefore, to describe this research, direct activities were carried out on the activities of *pranatamangsa* season instruction. Instruction as an agricultural calendar system that is trusted by farmers.This was followed by interviews with academics and farmers as informants. The informants used are:

First, Djoko Suhardjanto Professor of Accounting at Sebelas Maret University Surakarta Observer of Qualitative Accounting Research on Javanese Cultural Aspects,

Second, Antok Wahyu Sektiono as a Lecturer at the Agriculture Faculty, Brawijaya University Malang,

Third, Sukardi as a Farmer concurrently Head of the Sido Dadi II Farmer Group in Keras Wetan Village-Ngawi Regency, and finally

Fourth, Kunani as a Farmer concurrently as Treasurer of the Sido Dadi II Farmers Group in Keras Wetan Village-Ngawi Regency.

The four informants were able to provide acceptable explanations regarding the ratios and perceptions of *pranatamangsa* tradition. The visible reality can be solved ecophenomenologically, namely looking for substance from seasonal phenomena existence.

These interactions and direct interviews provide evidence that there is a close relationship between *pranatamangsa* and visible activity. Both can be observed with the senses, but understanding ecophenomenology signifies a deeper immersion into actual activity reality. This is to understand subject's relationship with the environment, so this research was conducted from 16 November 2021 to 09 May 2022. The research time which makes understanding unity in *pranatamangsa* reality. The method used is not only conceptual *pranatamangsa*, but also feels and preserves (involvement) this activity forever. That is, informants understand the value of season control through farming activities that are maintained. This achievement was made through reflection on its activities which depend on the presence of season instruction as a harvest guarantee.

Result and Discussion

The main difference between plants and animals with rice plants is the humans existence. As stated by Sukardi that:

> ...nothing but there are humans when they don't get sun light nobody doesn't receive now. The farmer's income *ya*...only the business of managing or cultivating plants and animals and using the results, changing the location of plants and animals and the environment so that they last for long to meet human needs, these humans are called farmers or farmers...whose activities are farming...so farmers have two roles, namely workers and the rice plant environment.[...*ora ana ing ana manusia apabila ara ana oleh nyetronge[sinar] matahari ara ana sing isa ditampa saiki. Khasile petani ya...mung usaha ngatur utawa ngusahane tanduran-tanduran lan kewan lan ngunane khasile, ngubah tempat tanduran lan kewan serta lingkungane supaya langgeng memenuhi kebutuhan manusia, manusia iki disebut tani utawa petani...yang aktivitase awujud usaha tani...dadi petani merangkap loro peran, yaitu penggarap lan lingkungan tandurane pari.*]

Income as stated by Sukardi shows that the rice plant nature requires priority in the plant process until harvest depending on environmental conditions. The condition of the rice plants begins as Izzah et.al (2018) and Suarsa et.al (2021), namely from preparing nurseries, tillage, planting, fertilizing, weeding weeds,

water regulation, controlling pests and diseases and harvesting. This process is also in line with Antok's statement that:

> not...the harvest will be later...you know, son...but how can the environment be a concern for support to ensure a successful harvest...yes...it is a belief that when the planting season is together, it is believed that pests or harvest failures can be avoided...this belief is not compulsion.[*bukan...lah hasil panen nantinya...lho mas...namun bagaimana lingkungan menjadi perhatian dukungan untuk menjamin keberhasilan panen...ya...sudah menjadi kenyakinan bahwa ketika musim tanam bersama, maka dinyakini hama atau kegagalan panen dapat dihindari...ini kenyakinan bukan keterpaksaan.*]

Therefore essential factors and climate at one time can be positively correlated in rice plants but at other times can be negatively correlated, so according to Doğan et.al (2013), Darfour & Rosentrater (2016), Livanova et.al (2018), Kumar et.al (2020) and Anwar & Firmansyah (2020), that there is a certain level where the environmental factors included in it best influence the quantity of a given product. The certain level of a factor that has the best influence on the products number provided is called the income optinum level, because as stated by Sukardi that:

> something that is optinum farmer produce gives something else maximum. The definition of optinum is just a meaning...lho son both from a physical point of view money for the harvest, or from the point of view belief in the planting environment. This is the calculation that is determining beginning agricultural yields to be sure...yes the future or future results of harvest...that's the meaning that becomes easy to remember...[*sesuatu sing awujud jenenge khasile tani yang optinum dadi nguwehi sesuatu lia sing maksimum. Mung jelasne optinum iku istilahku ae...lho mas baik didelok saka sudut fisik dhuwiteae atas khasile panen, utawa sudut keyakinan lingkungane tandur. Iki itungan dadi awal uga dadiake itungan-itungan khasile tani dadi pastine...ya khasile engko utawa masa depan saka khasile panen...lha...iki istilah mung dadi penak-penake ngilingake...*]

The future income relationship depends on the growth and development of plants which are fully influenced by all factors that exist in nature, and if it provides a result in income form which is influenced by how the paddy plants growth is handled. The relationship between income and plant growth during the planting

process until harvest is what farmers expect. Sebagaimana dijelaskan oleh Gokgoz (2012), Darfour & Rosentrater (2016), Soetriono & Suwandari (2016) and Anwar & Firmansyah (2020). They explained that income depends on climatic factors such as rain, air temperature, air humidity, wind or air movement and day length. These factors are called the environment. Therefore, farmers as people who work on agriculture in order to be able to meet as much as possible of their needs, then the agricultural products they manage must be used as money as income. A lot of yields don't necessarily give a lot of money, because there are still many factors that affect achieving process it with the influential planting season and harvest environment. The relationship based on the dialogue below:

Sukardi : ya...the name...farming cannot be separated from the results of farming itself and around paddy plants[*ya...jenenge...usaha tani ora iso ucul saka khasile usaha tani iku dewe lan sekitarane tanduran pari*]

Kunani : This farming business that brings results is related to tomorrow's harvest activities...ya...later...ya the results received the next day. Situations like this make...manifestation...the paddy plant environment determines whether the harvest is successful or not[*usaha tani sing ditekuni iki yang tekane khasile hubungane karo aktivitas panen sesuke...ya...nantinya...ya khasile nampa sesuke. Situasi koyok ngene nemenake...kahana...lingkungan tandur pari dadi penentu panen khasil orane.*]

Sukardi : this paddy harvest...ya...yield and environmental guarantee[*panen pari iku...ya...khasile lan jaminan lingkungan*]

Whedy : environmental guarantee..uncle[*jaminan lingkungan....Pak Lik*]

Sukardi : income guarantee that all activities have been carried out must be supported by the paddy plant environment...that's the main thing...yes..make a guarantee of harvest or vice versa...I don't want to talk about failure...you know...harvest or not[*jaminan panguripan bahwa khabehe aktivitas sing uwis dilakokne kudu didukung oleh lingkungan tanam pari...kuwi sing utama...ya...dadiake jaminan panen utawa walikane...aku ora ngelem omong gagal...lho ya...panen utawa ora.*]

Kunani : The embodiment of this farmer can only be realized by himself... mas to determine the rotation of the seasons... so that the basis for the planting season is carried out... ya...certainly those who are guaranteed to receive the next harvest[*kahana tani iku kudu mung lan isa nyadarne awake dhewe...mas untuk netepake puterane mangsa...dadi acuane mangsa tandur dadine...ya...pastine sing uwis-uwis jaminan nompo panen sesuke.*]

Sukardi : the harvest season makes...the formulation of beliefs when we plant and care for paddy plants becomes an element that goes along with the soil. This land affair, you know...son is an important concern for the season. Whatever the type, even the quality of the paddy seeds that are declared superior but the land cannot be a guarantee, yes...there is no meaning to the superior paddy seeds...[*mangsa panen dadiake...rumusan nyakinan kapan kita nandur lan memperhatikan nandur pari dadi unsur sing nyatu marang lemahe. Urusan lemah iki lho...mas sing dadi pentinge perhatian terhadap mangsa. Apapun jenis, bahkan kualitas winih pari sing kasebut dadi unggul nanging lemah ora isa dadikake jaminan ya...ora ana artine winih pari unggul kuwi...*]

Kunani : the understanding that makes the relationship between soil and seed son...a relationship that is equally important to make attention to dependence of the planting season as a manifestation of the same concern as support of soil itself[*arti dadiake hubungan lemah karo winih mas...hubungan sing podho-podho menuhi pentinge perhatian karo ketergantungan karo mangsa tandur sebagai wujud perhatian sing podho marang dukungan lemah itu dhewe.*]

Sukardi : a relationship based on seasonal conditions...Son is not what we like to arrange...well...the season and harvest, yes...must go together. The result...yes, it's the same as yourself so you can plant it together...plant together so you can harvest... this is not wanting to be together to be together..ha...ha...but related to harvest guarantees...Son. Both must be recognized as collateral...yes...seasons or seasons and harvests. [*hubungan yang didasarkan pada kondisi musim...mas dudu seenaknya dewe diatur kita...lha...musim dan khasil panen ya...kudu bareng mlakune. Olehe...ya apo awake dhewe kudu bareng-bareng nandur...nandur bareng supaya isa panen...iki dudu kepinggin bareng-bareng ben kompak...ha...ha...nanging nyakut hubungane dengan jaminan panen...mas. Loro-lorone wis isa kudu diakui sebagai jaminan...ya...mangsa utawa mangsa lan khasile.*]

Whedy : this season or prey...is it always based on the calendar or farmers' beliefs...yes...together...yes My Uncle?[*musim ini utawa mangsa...ini apakah selalu berdasarkan kalender atau kepercayaan petani...ya...bersama-sama...gih Pak Lik?*]

Sukardi : season...signal season son...the agricultural calendar which guides the rotation of our planting season regulations...this has become the children language of elementary school to become a formula...guarantee...and...far away...yes...far from failing and starting with enough water and pests...yes...that was son...already a formula...yes..Mr. Kun...a formula or self-guidance[*mangsa...penanda mangsa mas...penanggalan pertanian sing dadiake acuan puterane aturan mangsa tandur kita...iki wis koyok dadiake bahasane cah SD dadi rumuse... jaminan...dan...adoh...ya... adoh saka gagal lan mulai*

cukupe banyu lan hama...ya...maeng mas...wis dadiake rumusan...ya..pak Kun...rumusan utawa acuan awake dhewe.]

Kunani : yes...the language has become the basis for the farming season calendar...son...the calendar which guides the planting start...until harvesting...because yes, like what Mr. Su said earlier that planting...paddy has a feeling of life or life span requires water sufficiency and away pests.[*iya...bahasane wis dadi ake acuan penanggalan mangsa tani...mas...penanggalan supados dadiake acuan mulaine tandur...sampai panen...karena yo kuwi maeng sing Pak Su omongake bahwa tandur...pari duweni rasa urip utawa masa hidup butuhe cukupi banyu lan adoh hama.*]

Sukardi : shared instructions that pay attention to the calendar have made a continuation to guarantee that water will be available until pests can be reduced...this is a proven belief son...believe...lho...come on...son can drink and eat paddy field cakes...[*acuan bareng-bareng dadiake perhatian awake marang penanggalan wis dadiake lanjutane menehi jaminan banyu ana uga sampai hama isa dikurangi...iki keyakinan dan teruji mas...percaya...lho...ayo...mas diminum lan dicicipin jajanan sawah...*]

Whedy : thanks My Uncle and Mr.Kun...yes[*maturnuwun Pak Lik dan Pak Kun...inggih*]

The relationship between the planting season and the agricultural calendar (*pranatamangsa*) gives confidence in the success of planting to harvesting. The process of planting and harvesting seasons is the basis for earning farmers' income. As explained by Fidiyani & Kamal (2012) and Gustaman (2020) that the determination of the planting season is determined based on the arrangement of the seasons based on a days sequence that has been believed to record the time period for *mangsa*, the period and the length of the day, this is called *pranatamangsa*. This *pranatamangsa* gives farmers confidence about the smoothness of the planting process and far from failure.

This belief makes *pranatamangsa* a calculation that is noticed and trusted. Situations that make climate factors and disturbances become encouragement for farmers to base the calendar. The two factors, namely climate and disturbance (pests) are the biggest expenditure calculations for farmers in the pre-planting period towards harvest. As Sukardi stated:

> ...thus...lho son...season markers can make the calculation of harvest later... not only weight calculate or weight of the paddy but there are

> things that make the weight a lot...namely the planting period but calculating how much to spend... must be met...to deal with the weather and pests. You know...this has become the farmer's own formula when the weather is favorable and pests can be overcome...surely the harvest...you can be sure...*lha*...this is the expected result tomorrow...Amiin.[...*ngene...lho mas...penada musim isa dadiake itung-itungan khasile panen engko...dudu mung hitungan bobot utawa abote pari nanging ana sing dadi bobote iku sing pengaruhe akeh...yaiku masa tandur namun ngitunge berapa sing kudu ditokne ya...kudu dicukupi...untuk hadapi cuaca lan hama. Lho...ini uwis dadi rumus awake dhewe petani ketika cuaca dukung lan hama dapat di atasi...pasti panen...uga wis isa dipastine...lha...iki sing dadi khasil sesuk sing diharapne...Aamiin*.]

This condition is based on the belief in determining the season in giving farmers confidence in the planting success. Success in earning income as a result of planting process. The result of this planting is a planned cost calculation that has been calculated by farmer, but the income will depend on the planting process (Barokah et.al, 2014; Livanova et.al 2018; Andreev, 2019; Suarsa et.al, 2021). This calculation is passed through seeds providing process, nursery, land processing, cultivation, and upkeep. This is based on Sukardi's statement that:

> starting...the costs incurred are yes...ten million more than two hundred thousand which makes the determinants can be calculated...yes...this is our basic formula...but it can also increase...son...when there are pests and water which are the biggest elements compared to buying fertilizer...this *lho*...son...what we all mean is to make the planting atmosphere a factor that must be prepared to increase costs or expenses...to be a guarantee until harvest.[*dimulai...rangate sing wis metu pira[dikeluarkan sebesar] ya..sepuluh yutaan luwih rongatusan dadiake penentu sing wis diitung...ya...iki dadi rumus acuan kita...namun iso ae nambah...mas...ketika iku maeng hama lan banyu dadiake unsur sing paling gede dibandingne karo metune pupuk...iki..lho mas...awake maksudne khabeh dadiake supaya suasana tandur dadi faktor kudu siap-siap tambah rangat utawa biaya yang kudu metu...dadi jaminan sampai panen.*]

Based on the statement above shows attention to the season to be taken into account by farmers. Seasonal concerns make the calculation of improved cash costs to provide materials used and reserves for harvest failures and possibly

falling prices. This situation makes farmers very dependent on the growing season. The season determination based on the planting calendar calculation is testimony that farmers have their own seasonal records (Izzah et.al, 2018; Gustaman, 2020). Farmer season calculations are carried out based on farming experience with a "risk minimization" orientation or trying to minimize risk, namely the seasonal calendar records. This shows that farmers link the season in costs calculating must be incurred. The relationship between costs and seasons becomes the overall cost of the planting process starting from the agricultural calendar. As referred to by Sindhunata (2011) and Wahyudi (2012), the 12 *pranatamangsa* seasons are grouped into four main seasons. The four main seasons are the third (*katiga*) or dry season (88 days) from June 21 to September 17, the *labuh* season or transition from dry to rainy (95 days) from October 13 to December 21. The dry (*rendeng*) or rainy season (94 or 95 days) from December 22 to March 25, and finally the *mareng* or transition from rainy to dry season (88 days) from March 26 to June 21.

The season determination is the basis for calculating costs incurred individually, so that confidence in farmers' planting season calendars depends on the individual. The cost determination process as stated by Sukardi that:

Whedy : Uncle...sorry again...why does the season affect the cost so much?[*ngaputen maleh...kenapa musim sangat mempengaruhi ragat utawa biaya gih?*]

Sukardi : like this...*lho* Son...our calculation...yes...based on the calculation of the cost for plowing one point two, labor costs...yes...equivalent to a workforce of two million, planting costs one point eight, fertilizer spend four million, medicine two million, costs for harvesting one million and so on...for electricity, yes...need one point five...or should I write it...a moment (while picking up a piece of paper and ballpoint pen and write it down, this is as **Figure 3**). So if you can seriously base the season on it...the income will be...you can say it's not bad[*ngene...lho mas...itung-itungan kami ya...dedasare saka itungan rangat kangge bajak siji koma loro, upahe tenaga...ya...padha karo tenaga kerja rongyuta, rangat tandur siji koma wolu, pupuk ngentekke papat yuta, obat-obatan rong yutanan, rangat kanggo manen sak yutanan lan lain-lain ya....kanggo pulsa listrik ya...mbutuhake siji koma lima...utawa sik tak tulis ae ya...sebentar (sambil mengambil kertas dan bolpoint serta mencatatnya, hal ini sebagaimana **Gambar***

3*)...Lha...iki nak ditotal ya...telulas koma lima sedangkan untuk musim....isa enem yutanan. Sehingga upamane awake isa temenan runtut mangsa...dadine khasile yo...isa diartene lumayan...*]

Whedy : I took the picture...*gih* Uncle...it's harvest season...*gih*[*Kula fotonipun...gih Pak Lik...ini mangsa atau musim panen...gih*]

Sukardi : true...determinan once...you could say it has a big influence son...[benar...*nentukake banget...iso kasebut pengaruh gede* mas...]

The cost calculation mentioned above is shown in **Figure 3** below:

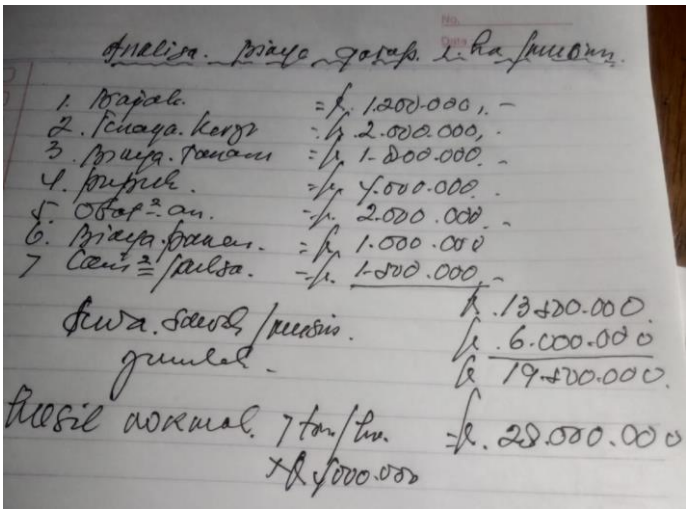

Figure 3: Calculation of Planting Costs

The calculation specified above is the result of a farmer's business which is calculated based on the total value of money actually issued by the farmer to finance his paddy planting activities. This activity is as stated by Barokah et.al (2014) and Soetriono & Suwandari (2016) as a calculation of all costs that must be incurred in the process of obtaining income. That is, the previous costs incurred as an accumulation of future calculations when the harvest comes. The calculation process is quantified as costs with a fixed amount, namely as calculations based on the determination of previous calculations. Calculations like this are also stated in the research results of Kumar et.al (2020), Mulyani et.al (2020), Mulawarman (2020), Anwar & Firmansyah (2020) and Badu et.al (2021) that farmers have calculated profits as income based on previous harvest activity.

Based on these conditions, it shows that the activity of spending planting costs is a component of upfront costs that can be calculated. Settings based on previous

growing season records. This cost calculation is again calculated with harvest yields as income, but added to the seasonal factor as unpredictable costs. The process of determining this fee becomes a cost that is regulated by farmers as the formulation of the Farmer's Exchange Rate (FER) for the costs paid (Ib) with the price received (It) added to the season factor as a determinant of the equation results.

Pranatamangsa **Collects Costs Set Assurance for Farmers' Income**

> The guide for the season calculation that must be in the calculation of farmers, this concern makes the determining factor that becomes the farmer's income [*Mangsa pathokan itung-itungan sing kudu ana ing itungan petani, pentelengan iki dadiake faktor penentu sing dadi khasile petani*[Sukardi, 04 Maret 2022].

This statement is in line with the presence of *pranatamangsa* concept as stated by Wahyudi (2012), Fidiyani & Kamal (2012) and Gustaman (2020) as a regulation of the planting season for climate activity an agricultural calendar in Java. *Pranatamangsa* was further explained by Sindhunata (2011) as a working guideline for farmers who can be accounted for bioclimatological, not heresy. It is compatible with Antok stated that:

> Indeed, the season...which sir mean is often called *pranatamangsa* in the season markers. This sign is based on astronomical and meteorological aspects that are believed by the Javanese in their agricultural activities...yes...what's it called...yes...*rendeng* season...the third...this has been calculated in the farmer's self... yes, like the Javanese calendar, there are *pon, wage, rejeb*...the determinants...e...e... season markers are the basis for planting or it's time to plant to harvest. [*Memang musim...yang mas maksud sering dinamakan pranatamangsa pada penanda musim. Penada ini didasarkan pada aspek astronomis dan meteorologis yang dinyakinan oleh orang Jawa dalam aktivitas pertaniannya..ya...ada namanya apa...ya...musim rendeng...ketiga...ini sudah dihitung dalam diri petani...ya seperti kalender Jawa ada pon, wage, rejeb...penentu...e..e..penanda musim inilah yang menjadi dasar tanam atau wayahe tandur supaya panen.*]

The statement above forms the basis for including the growing season calculation in maintaining the availability of costing arrangements. Seasonal calendar makes one unit in the calculations that have been arranged by farmers. Cost setting

needed to make perfection in the suitability between farmer records and expected results, so there is no adaptation error cost setting because farmer decision makers use information that is in accordance with the previous planting season. This is in line with stated by Barokah et.al (2014), Agyemang et.al (2018), Andreev (2019), Suarsa et.al (2021) and Badu et.al (2021) that farmers have their own calculations in the planting process. This process makes the arrangement of all costs that can be provided as a condition for the business running to be carried out. Therefore, based on the description, it can be formulated to calculate the farmers' costs arrangement with season to make one unit as follows:

FER > FTc + S

Where: FER : Farmer's Exchange Rate
FTc : Farmer's Total Cost
S : Season

So that it can also be formulated the paddy planting business effectiveness as a determinant of FER can be formulated:

Effectiveness : Total Harvest : Total Cost Regulated + Season (**Equation 1**)

So that the formula above becomes the basis for changes in calculating the results of harvest effectiveness as calculated by Sukardi to:

Total Harvest		18.000.000 (in IDR)
Expenses:		
Paddy processing	1.200.000 (In IDR)	
Labor	2.000.000	
Planting activity	1.800.000	
Fertilizer	4.000.000	
Drug’s	2.000.000	
Harvest Activity	1.000.000	
Others (Electric Pulse)	1.500.000	
Seasons	6.000.000	
Total Regulated Cost & Season		19.500.000
So FER Effectiveness		1.44

Calculation of the effectiveness of farming is shown by the value of Total Harvest (TH) compared to Total Regulated Costs (TRC) + Season ratio of 1.44, which means that every 1 rupiah of costs and seasons spent in paddy farming will get

revenue of 1.44 indicating that the business paddy farming is feasible to be cultivated and successful in its planting activities. Based on these calculations, it shows that the seasonal factor is 2.25 of the overall total cost that is regulated, meaning that the seasonal factor provides a large cost factor in ensuring smooth operation, which is twice the estimated total cost that is regulated by farmers. Season lists make costs that are deliberately determined by farmers and not by market forces (yields). That is, farmers who sell their harvest with regulated prices have control over the harvest themselves. From results research, this concept is called administrated cost.

The regulated costs make season a determining factor for farmer income (FER). This seasonal factor is directly related to the total costs, meaning that when the costs set by farmers have been determined, the season has an additional impact that must be anticipated. Therefore, when the season is in line with the planting process, the cost is 6,000,000 (IDR) can be allocated as additional income for farmers. This logical calculation is in line with what was stated by Kumar et.al (2020), Hoesada (2021) and Gardher (2021) that the environment guarantees increases or decreases and even losses for farmers in their planting activities. This condition is in line with what was explained by Soetriono & Suwandari (2016) and Radianto (2020) because the paddy planting season is also strongly influenced by seasonal support. Relationships that provide guarantees for increasing farmers' income. The correlation also refers to Djoko's statement below:

> Calculating....income for us...if based on being a farmer is the main target given. Given this, it means that income is the final line that can bring prosperity, because the season determines this line, meaning that the season clearly supports the line that has an impact on the final calculation of farmers as a result of work in enjoying the planting process as a job that is occupied. [*Menghitung....pendapatan bagi kita...kalau didasarkan dadi orang tani menjadi sasaran utama sing diberikan. Diberikan ini artinya pendapatan dadi garis akhir yang dapat mensejahterakan, karennya mangsa menjadi penentu garis tersebut mas...artinya mangsa atau musim mendukung jelas garis sing menehi dampak pada hitung-hitungan akhir petani sebagai hasil jerih payahe dalam menikmati proses tanam sebagai pekerjaan yang ditekuninya*.]

The welfare of the farmers referred to by Djoko is the income calculation in the structure of the sales chain of their planting products, so that sales become the value and price of agricultural production. This relationship provides a study that at the point where the income calculation results maintain the harvest quality with the consequence that costs are regulated and the season can be maintained, then the overall costs and risks to the harvest quality are maintained.

The relationship between input (cost and season) and output (harvest income) of the farmer is a linear relationship, not a reciprocal relationship. That is, that costs and seasons are efforts that are deliberately made as farmer expenses in achieving their income goals. This relationship can be described as follows: Therefore, the organizers of the farming business always try to make the harvest successful (a lot). If the harvest is in paddy form, then the farmers hope that this harvest is at least enough to cover the costs that are regulated as the planting process up to the next harvest or planting season. Conditions are in line with those stated by Barokah et.al (2014), Harjito et.al (2016), Izzah et.al (2018), Agyemang et.al (2018), Andreev (2019), Gustaman (2020), Suarsa et.al (2021) and Badu et.al (2021). They explained that farmers' expenses form the basis for calculating harvest in receiving as a farming process that has been carried out, so that income is expressed in calculating the difference in harvest.

The basis for the study formulation on the income concept is based on the fact that maintained harvests consequences affect funds availability and the smooth running of subsequent plantings. Therefore, the formula formulated in **Equation 1** above takes into account climatic factors supporting farming processes, such as pest control, water availability, and other climatic conditions (wind). This climatic factor is in line with Soetriono & Suwandari (2016), Radianto (2020), and Gardher (2021) which explain that paying attention to calculating farmers' costs for the season is a factor that must be maintained to increase harvest production. Climate events mean harvest damage. This phenomenon is further supported in the explanation of Sindhunata (2011) and

Gustaman (2020) that solving the harvest failure problem is by declaring planting season support as an absolute value for achieving sustainable harvesting yields.

The achievement of sustainable yields refers to the nature of farmers in spending money on the results of previous harvests, so that they can lead to a situation of sustainability of the next harvest activity. Therefore, the situation of **Equation 1** is achieved with all the risks faced considering the season. The fact that makes farmers to take into account the season as an additional income support according to the effort they do, this causes them to stay at the average cost equal to their revenue, which should equate their marginal revenue and marginal cost. This fact has the implication that the season is largely determined by the basic value of time and costs, meaning that changes in harvest yields will result in an increase in the number of farmers' businesses (2.25). By assuming supportive climate as a harvesting effort variable, the model for farmer income can be formulated as follows:

FER : TC = TR, Where;
TC : Qb + Qc
TR : ton/ha x selling price
So, FER : [Qb + Qc] – [ton/ha x selling price] [**Equation 2**]

Based on **Equation 2** with reference to **Figure 3** regarding the calculation of planting costs, the farmer's income can be calculated as (in IDR):

FER : [13.500.000 + 6.000.000] – [7 or 8 ton/ ha x 4.000.000]
: [19.500.000,00] – [28.000.000]
: 8.500.000

This amount will have a big impact if the season costs can be reduced from the predetermined determination of less than IDR. 6,000,000, meaning that when the seasonal fees provided by the farmers are not used or are less than that amount, it means that the farmers' income is getting bigger. The impact of additional income is that farmers can provide initial capital for the next harvest season and make family life more prosperous. Calculation of the influence of this season as stated by Antok that:

> When...it is...determined how much it will cost and the season is very friendly...it is clear that the farmer's capital for the next

> planting season will be maintained...if he calculates his income during the waiting period for planting again...yes...comparable you know with us...even more...this is what must be considered to make the season as a marker of harvest yields can be maintained and even improved.[*Ketika...sudah...dapat ditentukan berapa biaya yang dikeluarkan dan musim sangat bersahabat...jelas modal petani untuk musim tanam berikutnya akan terjaga...kalau hitungan pendapatan dia selama masa menunggu tanam lagi...ya...sebanding lho dengan kita...bahkan lebih...ini yang harus diperhatikan untuk membuat musim sebagai penanda hasil panen dapat terjaga bahkan ditingkatkan.*]

Attention to this season has a positive influence on farmers' income. Seasons that favor the *pranatamangsa* use to increase yields. This indication is proven by including the season costs calculation, meaning that regardless of the weight harvest (tons) it gives an elastic response, an indication of effective additional income in increasing the next planting season. The elasticity of this equation is as stated by Soetriono & Suwandari (2016) and Suarsa et.al (2021) that grain production for the seasonal aspect has a higher value for each additional farmer's income. This condition affects the harvest weight with a maintained soil bioeconomic environment. This season gives a value of 2.25 of the total cost set above is elastic. As calculated in the following determination of income:

Total Harvest	: (1 ton / hectare)	
	: 7 x Rp. 4.000.000	28.000.000,00 (In IDR)
Expenses		
Paddy processing	1.200.000 (In IDR)	
Labor	2.000.000	
Planting activity	1.800.000	
Fertilizer	4.000.000	
Drug’s	2.000.000	
Harvest Activity	1.000.000	
Others (Electric Pulse)	1.500.000	
Seasons	6.000.000	
Total Regulated Cost & Season		(19.500.000,00)
Farmers' Harvest		8,500,000.00

Based on the calculation above, it can be determined that the the total costs ratio of farming is:

Table 1. Comparison of Farming Total Costs

Costs	Explanation		
	Farmers' Activity (Each/IDR)	Paddy field (Hectare/IDR)	%
Planting Costs	11.000.000	19.500.000	56.41
Harvest Activity Costs	1.000.000	19.500.000	5.12
Others Costs	1.500.000	19.500.000	7.69
Seasons Costs	6.000.000	19.500.000	30.78

The calculations results show the relationship between yields and economic consequences of *pratanamangsa* season. The proven relationship with 30.78 season support increases almost ONE time Farmer's planting cost. This calculation assumes that attention dimension to seasonal conditions is considered to have an effect on the weight (tons) of paddy. This assumption is in line with the results of research by Barokah et.al (2014), Izzah et.al (2018), Gustaman (2020), and Badu et.al (2021) that the growing season conditions are acceptable because paddy plants will be. Pay attention to the calculations that equation influence for the paddy produced amount. This equation step must be taken by farmers to get income as a result of the planting process. Finally, in the perspective of *pranatamangsa* Javanese agricultural accounting process for the application of costs regulated as guarantees for farmers' income at the cost-revenue exchange rate are:

Regulated Cost Farmers	xxx	
Season Cost	xxx	
Farmer's Exchange Rate (FER)		xxx

Based on this record, it shows that the sacrifice of planting costs and the season for the planting process is commensurate with the harvest (as a measure of Farmer Exchange Rates). The mechanism for attention to seasons is maintained and optimal, so that the success of the planting process until harvest can be maintained. Sustainability of planting activities based on season increases paddy production. As stated by Antok that:

> The next determinant...yes...sir season...the big calculations that must be incurred when the entire cost borne by farmers becomes the beginning of the desire to get results that have time to achieve them...this time is the impact when we decide to produce with next

> growing season.[*Penentu lanjut...ya...musim mas...hitungan besar yang harus dikeluarkan ketika keseluruhan biaya yang ditanggung petani menjadi awal dari keinginan untuk mendapatkan hasil yangmempunyai waktu untuk mencapainya...waktu ini yang menjadi dampak ketika kami memutuskan untuk hasil dengan musim tanam selanjutnya.*]

Seasonal conditions from the agricultural accounting approach are recognized as environmental investments as stated by Doğan et.al (2013), Al-Sharafat (2016), Mihalciuc (2017) Livanova et.al (2018), Andreev (2019), Anwar & Firmansyah (2020), Badu et.al (2021) and Gardher (2021). They stated that agricultural accounting has definite potential economic and non-economic benefits for farmers. This consequence makes it easy for farmers to increase tons of harvest production even as a sustainable economic function. Furthermore, non-economic conditions create environmental conditions for planting land (paddy fields) that are sustainable, which are conducive to ensuring the quality improvement and social community welfare and farming families.

Both of these benefits are a process of formulating *pranatamangsa* agricultural accounting for regulated costs application. Cost determination as a guarantee of farmers' income at cost-revenue exchange rate. Yield income is the Farmer's Exchange Rate (FER). FER as suitability for harvest, meaning that the trend of increasing FER is directly proportional to the achievement of yields (tons) and selling prices. The formulation that becomes farming income is by multiplying the paddy production amount by the selling price of paddy per ton. Formulation by taking into account the season factor as a determinant of the amount of harvest production produced. This awareness provides integrated data information (equation) in the formulation of *pranatamangsa* agricultural accounting process.

This formulation produces integrated, complete and relevant agricultural accounting information based on season markers. Information to pay full attention to the genius aspects of local wisdom in supporting agricultural sustainability activities. The results of this formulation are useful for users in assessing and making decisions that are environmentally friendly to increase the farmer’s

welfare. Welfare which further shows the level of harvest exchangeability for consumption and needs in the process of a sustainable growing season.

Conclusion

Formulation of *pranatamangsa* agricultural accounting for the application of regulated costs. Determination of costs as a guarantee of farmers' income at the cost-revenue exchange rate. The income from the harvest is the Farmer's Exchange Rate (FER). This value is based on season markers that guarantee farming until harvest. A process that gives awareness to farmers to take into account seasonal costs as a whole in a sustainable planting process. The implication is that the dependency on the *pranatamangsa* season marker makes regulated costs make season a determining factor in determining farmer's income (FER). This seasonal factor is directly related to the total costs, meaning that when the costs set by farmers have been determined, the season has an additional impact that must be anticipated.

So, farmers play an active role in paying attention to *pranatamangsa* as a planting season calendar that can affect their harvest. This concern shows the added value of agricultural accounting conceptual, namely efforts must be made first to obtain results (or harvest). In another sense, income represents achievements and costs represent effort, or in other words, there is persistence in work and livelihood as a harvest as income. Thus, the concept of effort and results has the implication that revenue is generated by costs amount determining.

The relationship between input (cost and season) and output (harvest income) of the farmer is a linear relationship, not a reciprocal relationship. That is, that costs and seasons are efforts that are deliberately made as farmer expenses in achieving their income goals. Interaction evidence points to this research limitations on seasonal markers awareness that cannot be separated in farming. Conditions like this indicate a double existence in life as an arena of emotional interaction in disclosing or reporting seasons through *pranatamangsa* agricultural accounting reports, namely the cost-revenue exchange rate as farmer's income. This report is based on continuing their own sense of response, building awareness and taking

action. Therefore, further research needs to be further developed as a result of public awareness as a form of the agricultural accounting presence. Furthermore, research methods can use a case study approach and ethnomethodology based on participant observation as a complete source.

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