

Original article

Relationship of differential income and revenues as a taxable base in the Cuban agricultural sector



Relaciones de renta e ingresos diferenciales como base imponible tributaria en el sector agropecuario cubano

Relações de renda e rendimentos diferenciais como base fiscal tributária no setor agrícola cubano

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ABSTRACT

Income relations, present in the construction of socialism, have not been applied either theoretically or practically through the payment of taxes or other forms in which they could be captured, which means that they are not taken into account when calculating the tax base or in the differentiation of producers, according to the type of soil on which they work. For its part, the tobacco industry constitutes a line of vital importance for the country's economy as an exportable item, recognized for its quality, purity and combination of knowledge that identify it especially in the western region of Cuba, where the soil characteristics are ideal to obtain higher levels of productivity, potentialities that are not yet exploited to the maximum. The objective of the present work lies in: To assess, on the basis of the theoretical referents of differential income, the need for the capture of differential revenue as a tax base in enterprises and cooperatives of the Cuban agricultural sector. For its fulfillment, the historical-logical and systemic-structural theoretical methods and empirical methods

such as measurement and observation, among others, were used. The main result of the research lies in a diagnosis that demonstrates the need to calculate taxes taking differential revenues as a taxable base in tobacco enterprises, based on the theory of differential income, which will allow increasing the state budget from tax revenues.

Keywords: differential income; tax management; differential revenues.

RESUMEN

Las relaciones de renta, presentes en la construcción del socialismo, no han sido aplicadas ni teórica, ni prácticamente mediante el pago de tributos u otras formas en las que pudiera captarse, lo que trae consigo que no se tengan en cuenta a la hora de calcular la base imponible tributaria ni en la diferenciación de los productores, según el tipo de suelo en que trabajan. Por su parte, la industria tabacalera constituye un renglón de vital importancia para la economía del país como rubro exportable, reconocido por su calidad, pureza y combinación de saberes que lo identifican especialmente en la región occidental de Cuba, donde las características del suelo son la idóneas para obtener niveles superiores de productividad, potencialidades que aún no se explotan al máximo. El objetivo del presente trabajo radica en: Valorar, sobre la base de los referentes teóricos de la renta diferencial, la necesidad de la captación de ingresos diferenciales como base imponible tributaria en empresas y cooperativas del sector agropecuario cubano. Para su cumplimiento, se utilizaron como métodos teóricos el histórico lógico y el sistémico-estructural y métodos empíricos tales como medición y observación, entre otros. El principal resultado de la investigación radica en un diagnóstico que demuestra la necesidad del cálculo de impuestos tomando como base imponible ingresos diferenciales, en las empresas tabacaleras, sobre la base de la teoría de la renta diferencial, lo cual permitirá incrementar las captaciones al presupuesto del estado a partir de ingresos tributario.

Palabras clave: renta diferencial; gestión tributaria; ingresos diferenciales.

RESUMO

As relações de renda, existentes na construção do socialismo, não têm sido aplicadas nem teórica nem praticamente através do pagamento de impostos ou outras formas em que poderiam ser obtidas, o que significa que não são tidas em conta no cálculo da base fiscal tributária ou na

diferenciação dos produtores, de acordo com o tipo de terra em que trabalham. Por seu lado, a indústria do tabaco constitui uma linha de importância vital para a economia do país como mercadoria exportável, reconhecida pela sua qualidade, pureza e combinação de conhecimentos que a identifica especialmente na região ocidental de Cuba, onde as características do solo são ideais para obter níveis superiores de produtividade, potencialidades que ainda não são exploradas ao máximo. O trabalho tem por objetivo: Avaliar, com base nas referências teóricas de renda diferencial, a necessidade de captar a remuneração diferencial como base fiscal nas empresas e cooperativas do sector agrícola cubano. Os métodos teóricos utilizados foram métodos histórico-lógicos e sistémico-estruturais, assim como métodos empíricos como a medição e observação, entre outros. O primeiro resultado da investigação assenta se num diagnóstico que demonstra a necessidade de calcular impostos utilizando o rendimento diferencial como base fiscal nas empresas de tabaco, com base na teoria do rendimento diferencial, o que permitirá um aumento do orçamento do Estado a partir das receitas fiscais.

Palavras-chave: diferencial de renda; gestão fiscal; rendimentos diferenciais.

INTRODUCTION

Taking into account the type of activity carried out, the economic sectors have been divided according to the area of production, into companies focused on agriculture, livestock or mining. In particular, agriculture and livestock, or the agricultural sector, is one of the most important sectors of the economy for the development of a nation, since it guarantees food sovereignty and security for the population and contributes to sustainable development (Chávez Haro et al., 2020).

The agricultural sector is of significant and strategic importance for the Cuban economy. The fundamental reasons why it is decisive and strategic lie in the fact that it is the primary sector of food production for the population and the livestock branch, processing industry and substitute for the reduction of food imports (Nova González, 2018). Agricultural activities are scattered wherever there are soil, water and climate conditions for their development.

The agricultural sector is made up, among other elements, of agricultural enterprises and cooperatives. In the words of Mora Rendón (2012), agricultural enterprises can be defined as the microeconomic unit that carries out its operations in order to increase productivity and yield per unit

of land. In addition, they seek to carry out activities of production, distribution and consumption of agricultural goods and that in its performance as an administrative unit, its management would be evaluated in its ability to make decisions on the best combination of productive resources, always in the most efficient way possible to increase profit.

For their part, agricultural cooperatives have been catalogued as an organizational model that allows the formal operation of small agricultural producers, being one of the best ways for them to increase their revenues through the improvement of their production and marketing conditions; in addition, cooperatives constitute a mechanism for agricultural social inclusion that allows the development of communities (Maestre Matos et al., 2019).

According to Labrador Machín et al. (2020), the organization and development of agricultural production carried out by agricultural enterprises and cooperatives, as well as by independent producers, are subordinated to a set of particularities which, unlike other branches of the economy, establish certain requirements in the methods, means and forms, where land stands out as the fundamental means of production and differs essentially from others in that, with adequate treatment, they constantly improve, increase their yield and minimize their deterioration, fundamental requirements for achieving levels of agroeconomic sustainability. In addition, it should be noted that land has a limited and irreproducible character in extension, as well as differences in quality and composition that determine its fertility.

This differentiation in terms of fertility means that the productions obtained by agricultural producers have different levels of yield, something that has been addressed in the classical theory of rent by several authors.

In a clear definition, for Marx (1973) ground income is the sum of money received by the landowner for making available to the capitalist the natural resources alienated as his territorial property and, like capital gains, this is paid with a part of the product of unpaid labor, while the result of the different productivity of equal capital investments, on equal areas of land of different fertility and/or location, was defined by Marx as differential rent.

For David Ricardo (2010), land income is that part of the produce of the land which is paid to the landowner for the use of the original and indestructible energies of the soil. It is often confused with the interest and profit of capital and, in popular parlance, that term is applied to any sum annually paid by the farmer to his landowner. For his part, Flichman (1977) considers that the definition of

differential income can be broadened, formulating it as the extraordinary profit that arises because of the difference in fertility between different lands simultaneously exploited in capitalist form, where the commercial value of agricultural products fixed by the production price of the land is worse. It is not necessarily the case that the amount of investment per hectare will coincide in the different lands; rather, it is logical to think that, in general, it will not coincide.

The definition of land income presented by Ricardo (2010) is directly linked to soil fertility, which is primarily the result of nature and, therefore, cannot be reproduced or expanded with economic progress. The income theory provided by Ricardo (2010) is basically a theory of differential income, since it states that this arises when portions of land are cultivated with decreasing or differential fertility (or due to differential location). This process generates different degrees of productivity per unit of additional land incorporated into the productive process (Teubal, 2006).

According to Kabat (2014), the differential income constitutes an extraordinary profit that, because it is based on natural conditions such as fertility and geographic location, can take the form of ground income and be retained by landowners. This extraordinary profit is a surplus over the average profit. Its appropriation by the landowner need not be detrimental to the capitalist tenant who, regardless of the magnitude of the differential rent, continues to receive his profit. It could be argued that a large part of this profit was appropriated by the landowners, and would thus be added to the rent to which it would be assimilated.

Caligaris and Pérez Trento (2017) defined that the application of capital to the same land of better quality will result in the generation of a plus profit that eventually becomes differential land rent.

However, since this plus profit is received only by producers who have a superior quality in terms of soil fertility for their production, the rest of the producers who have this indicator in a lower proportion, obtain a lower final profit, even if they use the same fertilizers and the same seeds or seedlings. But, is the differentiation only given in the utility? Of course not, because another element to take into account is the way in which the State captures the producers' profits and surplus through the country's financial system.

In a general sense, Calvo Bernardino et al. (2018) assert that the financial system of a country is formed by the set of institutions, means and market, which primary purpose is to channel the savings generated by spending units with surpluses, to borrowers or spending units with deficits. The financial system thus comprises financial instruments or assets, institutions or intermediaries and financial

markets (intermediaries buy and sell assets in the financial markets), as well as the monetary and financial authorities in charge of regulating and controlling it.

From the above, it is necessary to highlight that also the tax system in the economic and financial context, in a general way, allows investment, savings and wealth distribution (Ruiz Salgado et al., 2018), in correlation with this and according to Agostini and Jorratt (2017) the main purpose of a tax system is to raise revenue to finance the State, the provision of public goods and services, social spending and other activities that positively influence society

The tax system represents an economic policy instrument that allows fiscal policy to provide permanent income to the State, and in this way, it can fulfill its functions, promoting production and employment generation; in the economic context, it also allows investment, savings and wealth distribution (Ruiz Salgado et al., 2018).

Based on the above concepts, it is considered valid to define the tax system as the set of taxes (taxes, rates and contributions) that make up the fiscal policies of a State which objective is to collect the financing for the different goods and services it provides to society. However, the taxes applied to the agricultural sector represent one of the main ways of capturing this surplus or plus profit, which was previously defined as differential income and which is present in all forms of agricultural production, although this element is not taken into account in its calculation and no differentiation is made between producers belonging to agricultural enterprises and cooperatives with respect to the amount to be paid in taxes.

For this reason, the objective of the research is defined as follows: To assess, based on the theoretical references of differential income, the need for the collection of differential revenues as a tax base in enterprises and cooperatives of the Cuban agricultural sector.

Taking into account that the productions contemplated by the agricultural sector are wide, the research will focus on tobacco production due to the significance of this crop for the Cuban economy. Additionally, the data on which it will be carried out will be provided by the Empresa de Acopio y Beneficio del Tabaco (EABT) of San Juan y Martínez and the agricultural cooperatives associated to it, located in the tobacco massif of Pinar del Río and that represent a point of reference at national level in terms of quality and productivity of tobacco.

Based on the above, and seeking to fulfill the objective of the research, the classification of the land used for tobacco production and the taxes paid by the enterprise and the cooperatives with which it has contractual relations is addressed, based on the Marxist theory of differential rent.

MATERIALS AND METHODS

This study employed a mixed research approach based on dialectical materialism as an essential philosophical method to address the categories related to income and the predominant theoretical elements in the research.

The theoretical methods used were the historical-logical method to relate the thematic axes of different conceptions on land rent; the structural systemic method was also used to relate the different points of view of several authors that confirm the validity of the postulates of the Marxist theory of rent and the importance of its deepening in the context of socialism in Cuba.

The empirical methods used, mainly in the diagnosis carried out, are based on scientific observation to assess the way in which the forms of land rent are conceived in practice, as well as the application of two surveys, one addressed to the managers of the San Juan y Martínez Tobacco Collection and Processing Enterprise and of the agricultural cooperatives with which it has relations, and a second one addressed to the economic, accounting and financial personnel of the entities.

The procedures used were analysis and synthesis, scientific abstraction, induction-deduction and survey techniques, with a predominance of documentary analysis.

RESULTS AND DISCUSSION

García Ruiz (2022, p. 207) studies the two forms of land rent, known as absolute rent and differential rent in Cuba and affirms that in the period of transition from capitalism to socialism, and possibly in the socialist phase, as the first of the communist mode of production, there objectively exist agrarian relations of capitalist type that are subordinated as a particular subsystem to the system of predominant socialist production relations, therefore, modified relations of land rent that must be studied and explained by means of Marxist theory.

There are previous studies that underline the urgency of deepening on the importance, from the Marxist theory, of the foundation of the forms assumed by the income relations in our economy for

a true articulation of the existing economic forms in agriculture, with all the entrepreneurial fabric, something that is not without novelty in the national context in the face of the resizing of the economy, especially in terms of the relations between the State and these economic actors, since in the socialist construction the conditions are maintained for a group of enterprises to obtain an extraordinary profit, associated fundamentally with the best quality of the land used and the proximity to the consumer markets (Labrador Machín, 1998).

The fact that it is precisely the exceptional conditions of the means of production they use that allow them to make the work more productive and obtain extraordinary profits, together with the fact that the land belongs to the cooperatives, usufructuaries and a certain percentage to the State, conditions the possibility and necessity of rent relations in the socialist transition as relations between the State and the producers of the agricultural system with respect to the distribution of part of the additional product obtained as a result of the exploitation of relatively better land (Labrador Machín et al., 2020).

Based on these considerations, it is necessary to propose tools for the utilization of income relations based on the use of all possible potentialities that lead to higher levels of food and nutritional security and a considerable boost to key productions for export.

Cuba has been inserted into the international market throughout its history through several exportable products, such as sugar, tobacco, rum and coffee, which, in addition to the technical and processing process, require a productive process marked by experienced farmers who have been able to cope with the lack of inputs and technological obsolescence.

Among these, tobacco has a marked significance, not only because it is known worldwide that Cuba grows the best tobacco in the world, but also because this product and its derivatives have been in recent years the main exportable item of the agricultural sector, reaching high percentages of sales and bringing into the country several million pesos (Onei, 2021).

This is evidence of the importance of this product for Cuba's agricultural sector, which makes it possible to attract foreign exchange and reduce high volumes of imports, since tobacco consumption is deeply rooted in the Cuban population.

Tobacco production is mainly in the hands of independent producers, enterprises and cooperatives in the agricultural sector, including Agricultural Production Cooperatives (CPA), Credit and Service

Cooperatives (CCS) and Basic Units of Cooperative Production (UBPC), which maintain contractual relationships with state entities that carry out the collection and subsequent processing of raw tobacco and the curing of the leaf, after marketing to manufacturing enterprises. This crop has its productive center in the province of Pinar del Río, concentrated mainly in four municipalities: Consolación del Sur, Pinar del Río, San Luis and San Juan y Martínez, defined as the tobacco massif of the province (Fernández Lorenzo et al., 2016), where there are not only farmers with vast experience in tobacco planting, but also soils with superior quality according to the requirements that this crop needs for its correct growth.

With respect to soils, a review was conducted on the classifications of these in Cuba, where Resolution No. 376/2018 (Ministry of Agriculture, 2018) was found, which stipulates the following:

FIRST. Soils of very good fertility:

- a) Those capable of producing a large number of diversified crops.
- b) Those where the crop can develop without limitations and that reach more than seventy percent (70%) of the minimum potential yields.

SECOND. Soils of good fertility:

- a) Those capable of producing diversified crops, but affected by some limiting factor that requires certain conservation or improvement measures.
- b) Those that have slight limitations for the development of the crop and that reach between fifty percent (50%) and seventy percent (70%) of the potential yields.

THIRD. Medium fertility soils:

- a) Those that have limiting factors that greatly affect the development of crops and are only usable in some specific areas.
- b) Those with a marked incidence of limiting factors and which reach between thirty percent (30%) and fifty percent (50%) of the minimum cultivable yields.

FOURTH. Low fertility soils:

- a) Those with very severe limiting factors that are generally used for reforestation.

In addition, a similar classification is legislated in Decree Law No. 50 of 2021 (Council of State, 2021), in Chapter V, where soil types range from category I: very productive to IV: very low productive. This decree also establishes that soils with agro-productive categories I and II are to be used for food production and that areas with categories III and IV are to be used for crops that use substrates and other investments that preferably use renewable energy sources.

Currently, many agricultural productions require substrate due to erosion caused by overexploitation of the land, which causes many crops to be grown in any soil classification according to demand or need.

In the case of tobacco, it can be planted in soils ranging from type I to type III, however, type I soils are more suitable, since there will be a greater development and better quality and size in the leaves, regardless of the amount of fertilizer or other chemical components established as a general rule for its cultivation.

As previously mentioned, tobacco production is mainly carried out by cooperatives with soils of recognized quality for the cultivation of the leaf. Because of this, it was decided to focus the research on the EABT of San Juan y Martínez, considered to be one of the best in this respect. The EABT was founded to produce, collect, process and commercialize tobacco in the cultivation areas of the municipality, as well as to guarantee specialized technical services and the distribution of the necessary resources to the productive organizations. Within these productive organizations, those related to tobacco production are distributed in 5 CPA, 28 CCS and 1 farm, "Quemado de Rubí", which belongs to an independent producer.

Among the elements necessary to meet the research objective, a characterization of the predominant soil types in the territory was carried out, focusing on those belonging to the aforementioned EABT and associated agricultural cooperatives, noting that the enterprise has a soil map scale 1:10000 with the identification of limiting factors by zones, cooperatives and plots, highlighting those related to soil use, substrate content, effective depth, erosion, among other elements.

Table 1. Genetic classification of soils

Genetic type	Area (ha)	%	Description
V	5900.63	62.3	Ferrallitic Quartzite Yellow Leachate
VI	799.53	8.4	Ferrallitic Quartzite Yellow Reddish Red Leached
VIII	989.52	4.6	Fersialytic Reddish Brown
X	16.5	0.1	Pardos with Carbonates
XXVI	1179.39	12.5	Alluvial
XXVII	102.76	41.0	Quartzite sandy
XXVIII	468.04	4.9	Skeletal

Source: Own elaboration, based on the soil map reviewed at the enterprise

As shown in table 1, the prevailing soil type, according to genetic classification, is typical leached yellow quartzitic ferrallitic type, with 62.3 % (5900.63 ha) of total area; in second order, are the poorly differentiated alluvial type soils with 12.5 % (1179.39 ha), 10.5 % for typical reddish brown fersialitic soils (989.52 ha), 8.4 % of typical leached reddish yellow quartzitic ferrallitic type (799.53 ha), 4.9 % are skeletal of anthropic type (468.04 ha), 1 % quartzitic sandy (102.76 ha) and 0.1 % brown with carbonates (16.50 ha).

With respect to the agro-productive evaluation for the areas dedicated to tobacco cultivation, shown in table 2, it is highlighted that more than 50% of the areas dedicated to tobacco cultivation are type II, which in itself is identified as a strength of the territory in terms of soil quality, however, it has 23% of type I, which evidences the existence of differences in terms of agro-productivity indexes between producers, and even internally within the producer's properties.

Table 2. Soil evaluation by agro-productive category

Categories	Quantity (ha)	%
I Suitable Floors	910.68	23.9
II Suitable Soils with Limitations	2221.15	58.3
III Suitable Soils with Severe Limitations	644.09	16.91
IV Unsuitable Soils	32.97	0.9

Source: Own elaboration, based on the soil map reviewed in the enterprise

From the above analysis, two essential elements stand out: there is a classification of soils for tobacco production in the enterprise under study in correspondence with the regulations established in our country, which represents an indisputable advance in terms of the analysis of the efficiency and effectiveness of production and the analysis reflected in the soil classification, proposed so far. It is a genetic classification; therefore, it would be feasible to have a complete cadastre that differentiates the soils from the agroproductivity; this is one of the premises for the differentiation of the taxes to be paid by each producer in correspondence with the different fertility of the soil in which they carry out their work.

With respect to the taxes paid by both cooperatives and producers, it should be noted that farmers must pay Personal Income Tax and Sales Tax; however, this is not generally taken into account in the cooperatives, so they do not keep a record of them, which has a negative influence on the cooperatives' tax statements because, by not taking them into account, they do not have the real volume of revenues they contribute to the State's budget.

Furthermore, from the producers' point of view, the payment of these taxes independently, without taking into account the differentiation according to soil classification and agro-productivity, leads to inequity in terms of the amount paid for work done on the crops.

In order to delve deeper into these aspects, it was decided to apply a survey to 100% of the managers of the EABT of San Juan and the cooperatives with which they have contractual relations, with the objective of evaluating the tax management process and its relationship with the different agroproductivity of the soils, after which the following results were obtained:

- With respect to differential rent, all respondents denied knowing about this category, which shows that it is an insufficiently addressed topic, however, after a brief explanation about differential rent, many showed interest in the topic and made several positive comments about the importance of it.
- In the question related to soil classification, mainly the cooperative members commented on their impressions, even though the soil classification they refer to is the chemical classification of the soil, and not the agro-productive classification, which was mentioned by 50% of the enterprise's managers. With this, it was possible to define that, although classifiers exist, there is no homogeneity among the definitions nor among what the managers understand about them.

- With respect to the taxes that are paid, 90% stated that they were aware of them, 3 of the cooperative members stated that there was a person in charge of tax management who was in charge of controlling the taxes. Regarding the calculation of taxes, 85% confessed that they did not know the details of their calculation, nor the elements that make up a tax, while the remaining 15% stated that they knew some components, but could not mention all of them. Among the most frequently mentioned elements are the Taxable Base, the Tax Rate and the tax itself.
- In relation to the knowledge of the taxes that depend for their calculation on the revenues obtained from production, 90% of them mentioned some of them, according to their consideration, however, the 3 who said they did not know them were the same ones who stated that they had a person in charge of tax management and that is why they did not completely know the information that was being requested. Among those who responded, some were confused about the taxes, but in summary most agreed on the Personal Income Tax, Sales Tax and Profit Tax, which are taxes that do depend on the results of production to be effective.
- Regarding the Tax for the Ownership and Possession of Agricultural Land and the Tax for the Possession of Idle Land, all stated that they were aware of them and when asked to comment on them, the enterprise managers stated that, of these taxes, the first one is not currently being paid, because although there is a procedure for its calculation, it has not yet been implemented. Regarding the second tax, they stated that it is rather coercive, although due to its low amount it does not fulfill its objective of influencing producers to eliminate idle land and that they prefer to pay the tax rather than clean certain areas invaded by marabú or other plants.
- With respect to why, the Tax on Possession and Tenure of Agricultural Land is not paid, the enterprise's directors mentioned Resolution 376/2018 (Ministry of Agriculture, 2018), which establishes a Procedure for the application of Taxes on the Ownership or Possession of Agricultural Land and for the Idleness of Agricultural and Forest Land, which they mentioned in the previous question, however, they reiterate that this procedure was never implemented and only remained in draft form, even though they understand the need for it.
- Regarding differential revenues, none of them claimed to be aware of it, its essence was explained to them, it is noteworthy that 60% of the respondents asked for an explanation about it. After the exchange on this type of income, and due to the fact that reference had

previously been made to differential income and taxes based on production income, all managers, especially the cooperative members, showed interest in the subject.

- Based on this, when asked the last question of the interview, all of them affirmed that there is a need to implement a mechanism to differentiate the taxes paid by farmers and the enterprise. It is well known that not all farmers have the same agro-productive qualifications in their soils, which does influence their final production amount at the end of the tobacco season. In addition to this, some commented on the need for an updated soil study taking into account the agro-productive classification of soils and not only their chemical components.

In addition to the previous survey, it was decided to apply a survey to the economic, accounting and financial personnel of Empresa de Acopio y Beneficio del Tabaco de San Juan y Martínez and the cooperatives with which it has contractual relations. After applying the survey to 87 workers in the economic, accounting and financial areas, the following results were obtained:

- There is general knowledge of the taxes paid in the enterprise, although 85% of the respondents do not know all of them. Among the most known are the profit tax, the personal income tax and the local development land tax.
- In the case of taxes related to income derived from production or soil productivity in the cooperatives and in the direct producers of the enterprise, 87% did not know the incidence of the volume of production in the calculation of the taxable base of the taxes, so they did not know the taxes related to this indicator. However, the remaining 13% were able to name, albeit briefly, some of the associated taxes, such as profit tax, personal income tax and sales tax.
- In the case of the Tax on Ownership and Possession of Idle Land, it was verified that, in the case of the former, it is not being paid either at the enterprise level or by individual producers, although most of the respondents stated that studies are being carried out for its implementation. With respect to the second, it is paid by the producers independently from the enterprise, the control of idle land is carried out by the specialists of the entity and the collection of the tax is carried out by the National Tax Administration Office.
- When inquiring into why the Tax on Possession and Tenure of Agricultural Land is not paid, Resolution 376/2018 (Ministry of Agriculture, 2018) came up, which establishes a Procedure for the application of Taxes on the Ownership or Possession of Agricultural Land and for the

Idleness of Agricultural and Forest Land, however this procedure was never implemented and only remained in draft form.

- With respect to the differentiation between the amount of tax paid by the enterprise and the producers of the cooperatives with which it has contractual relations, all of the respondents denied that there is any type of differentiation in any taxation, since these are governed by the concept of whoever earns more, taxes more, which sustains the legislation and tax policy in Cuba.
- The previous point is justified in the results of question No. 6, where 100% of the respondents stated their lack of knowledge about differential income or the theory related to it. However, after commenting on some essential aspects of it, they managed to basically understand the relationship between income, taxes and income differentiation.
- After the explanation on differential income to the respondents, 75% of them agreed with the need to differentiate the amounts of taxes paid by producers, although they did not know how to do it, while the remaining 25% considered that it was not only necessary to differentiate the amounts of taxes, but to look for a mechanism to differentiate them from the productive base, since they agreed that the quality of the soil influenced the entire agricultural process of the producers.

From the application of these techniques, a set of regularities were identified, attending to potentialities and limitations with respect to tax management and its relationship with differential income in the Empresa de Acopio y Beneficio del Tabaco of San Juan y Martínez and the cooperatives with which it has contractual relations as shown below.

Limitations encountered:

- Currently, the enterprise and 42.85% of the cooperatives are in a loss situation, which limits the payment of taxes.
- There is no updated agro-productive soil classification.
- Producers are not differentiated according to the agroproductivity of the soils used for tobacco production.
- A tax tool related to soil agroproductivity and the exploitation of higher quality soils is not being applied.
- Neither the cooperatives nor the enterprise keep records of the amounts paid for personal income tax and sales tax for farmers and independent producers.

- There is no crop rotation map, which limits the use of soils during the period between harvests.
- Lack of tax training, mainly for cooperative managers.
- Widespread lack of knowledge about differential income and its relation to tax management and land.
- There is no differentiation between producers with respect to the taxes they pay.

Potentialities found:

- Increase in the quality of the economic-productive indicators of the enterprise and the cooperatives specifically related to tobacco production.
- The soils of the territory have the required quality to maintain high productivity rates for tobacco cultivation.
- The 82.2% of the soils used for tobacco cultivation are of agro-productive category I and II, which favors even more the quality of this crop.
- Both the enterprise and the cooperatives keep a record of the taxes paid by them.
- Economic, accounting and financial personnel trained in tax management.
- Interest on the part of managers to be trained in topics related to tax management and differential income.
- Recognition of the need to apply the Tax on the Ownership or Possession of Agricultural Land.
- Recognition by the directors of the need to seek a mechanism to differentiate producers according to the type of soil where they grow their crops, as well as a differentiation of the same when calculating or paying their taxes, which are based on the results of agricultural production.

As conclusions of the analysis carried out, it was found that the study on the use of differential income and tax management in Empresa de Acopio y Beneficio del tabaco of San Juan y Martínez confirmed that there is no differentiation between tobacco producers with respect to taxes paid based on production results; the territory has most of the necessary potentialities to maintain high agricultural production indexes, in addition to the fact that the directors of the enterprise and the cooperatives agree with the need to look for a mechanism to differentiate the producers, according to the type of soil where they grow their crops, as well as a differentiation of the same at the time of calculating or paying their taxes that have as taxable base the results of the agricultural production.

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Conflict of interest

Authors declare that they have no conflicts of interest.

Authors' contribution

Dainel Falcón Corrales y Odalys Labrador Machín designed the study, analyzed the data and prepared the draft.

Araisa Duque Rodríguez was involved in data collection, analysis and interpretation.

Magela Alonso Cabrera conducted a bibliographic review of the topics and object of study analyzed.

All the authors reviewed the writing of the manuscript and approve the version finally submitted.



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