Rice Technical Working Group

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Economic Factors Driving USDA's 2017/18 International Rice Baseline Forecasts

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USDA's 2017/18 long-term annual supply and demand baseline results for the global rice market are presented. Emphasis is placed on forecasting area response, yield growth, export and import levels, domestic use, and stock holdings for 33 countries (including the United States) and 9 multi-country regions. Aggregated, these 42 models account for total global rice production, supply, trade, and use. Economic factors driving long-term supply and use trends in key individual countries and regions are explained, as well as significant changes from the previous baseline. Markets are not segmented by class or type.

Each year, USDA develops both a domestic and international 10-year supply and demand baseline for rice. The baseline effort stretches across multiple commodities including grains, oilseeds, cotton, specialty crops, dairy, livestock, and poultry. The baseline assumes normal weather over the 10-year period and that current U.S. and global farm policies remain in effect. The baseline forecasts are made under given assumptions regarding population and income growth for individual countries, interest rates, and exchange rates. The 2017/18 baseline forecasts were developed in October 2017. USDA's annual baseline projections are used by market participants and policy makers for planning, budgeting, and decision making.

Institutional Agreements as Decisive Factors in the Development of Uruguayan Rice

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The Uruguayan rice sector is commonly seen as an integrated agro-industrial chain whose fundamental pillar is a unique pricing system originated by a private agreement between rice growers and millers. As a strategy based on this, the sector created of a whole network of institutional agreements that include things as management of the crop, agronomic and economics research, definition of the rice varieties released in the market, among other key issues that characterize rice production system in the country. The network not only involves farms and mills but also relies on important alliances with actors at both public and private levels. As a result, the Uruguayan rice sector has built an important reputation in the international market, being well-recognized due its productivity levels, safety, quality and uniformity of its products. For more than five decades, the price agreement was never questioned. It was strongly related to the consolidation of Uruguay as the most export-oriented rice producing country globally, occupying a relevant position in the top-ten list of net rice exporters in the last 20-30 years. Recently, increasingly high production costs at both farming and milling processes have raised some critical voices against the pricing system. Most critics claim the existence of asymmetry of information that allegedly gives some market power to millers and prevents from obtaining the efficient outcome postulated from economic theory in a free market.

The objective of this paper is discussing the strengths and weaknesses of this private pricing system from both a theoretical and empirical perspective. Under the perspective of the institutionalized economy and relevant concepts of the neoclassic economic theory, this research aims to discover if the institutional arrangements have been or continue to be key elements for further development of Uruguayan rice sector. In 1959, the national government ceased fixing the price of paddy price received by farmers. Every year, since then, representatives of the national rice growers association ACA (Asociación de Cultivadores de Arroz) and the four largest rice mills nucleated at GMA (Gremial de Molinos Arroceros) sit down in a negotiation table, without any government intervention to define the price to be paid by millers to farmers for their paddy rice. ACA is a business association that integrates 95% of the farmers from all over the country.

Uruguay harvests rice once a year, during its summer season. The pricing process starts right after harvest by monitoring the performance of rice exports during the whole trading year (March 1 to February 28). After deducting the value added by the milling process, including some profit level, what is left defines the price to be paid to farmers for their paddy. This is a weighted average price, which is the same for each farmer no matter which mill received the grain. The first important milestone in the process is the agreement of a provisional price, made effective by the end of June. At the end of the trading year, in theory, all the production was marketed. ACA and GMA representatives get together again to fix the final price for that season, with the consequent adjustments in the paychecks. When this occurs, the sector is going thru a new harvest.

A first analysis under the economic theory suggest some loss of efficiency on miller's side. Critics allege that millers usually hide the true nature of their cost structure while assuring some level of profit not based in market fundamentals. "What is left" after the deduction of the value added by the milling stage can or cannot be enough to reward the use production factors at the primary sector. Profit levels could be either positive or negative. Farmers face a level of uncertainty that millers do not face because the existence of asymmetric information. In principle, it would be possible for millers having no market incentives for seeking technical and economic efficiency, as farmers have. Nevertheless, any potential advantage millers could get can also be severely limited from the fact that they are completely price takers as suppliers in the international market.

In a more deep analysis, a potential price differential emerging between the actual pricing system and another one, closer to the ideal competitive supply-demand conditions can be seen as an insurance fee. Farmers are willing to pay to millers (usually also exporters) to ensure the placement of their production in the market. Millers are obliged to receive 100% of the production submitted by farmers. In that way, the latter transfer this marketing risk to the former, who will have to find the proper destinations of production. Farmer's engagement into this negotiated agreement is voluntary and they have been doing so for more than half a century, without any public intervention. The own agreement provides a private arbitrage process to be followed when direct negotiation does not comes out with a satisfactory outcome to both sides. This process, where each side appoint a referee, only happened twice in more than 50 years and this year could be the third such year. Other institutional and financial arrangements between farmers and millers have also allowed the development of different services (technical advice, purchase of inputs), also with the inclusion of other key players in this partnership, such as the national research institute, INIA (Instituto Nacional de Investigación Agropecua

Breaking Rice Yields through Sustainable Intensification Pathways

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With the expiration of the Millennium Development Goals at the end of 2015, the international community has agreed on an ambitious and transformational 2030 development agenda. While the new set of Sustainable Development Goals (SDGs) and the concrete targets and indicators for achieving these goals are crucial frameworks to guide the global understanding of complex sustainable development challenges, to encourage action and foster accountability, each country still needs to choose its own sustainable development path, with specific, achievable actions and outcomes at the national and sub-national levels. In 2013, Uruguay was selected as a pilot country for a study case analysis of agricultural transformation pathways, under the United Nation's Sustainable Development Solutions Network initiative (SDSN). Although the main focus of the international project was the beef cattle production system, Uruguay authorities decided to broaden the scope of the study and extend the efforts of setting up SDGs to other key agricultural sectors: dairy cattle, rice, soybeans, and forestry.

This research outlines the fundamental elements of a pathway for transforming Uruguay's rice sector in a way that is consistent with post-2015 SDGs. It introduces the productivity and environmental targets for 2030 that constitute the basis of the pathway as well as the methodological approach used to develop them. Uruguay is probably the most export-oriented producing country of the word, selling around 95% of its total production in the international market. No other country actually devotes a proportion as high as Uruguay does. Each year, rice exports reach around one million metric tons of rice products, shipping weight, to more than 50 destinations. This is equivalent to more than 1.3 million metric tons of paddy, placing the country sixth to eighth in the top ten ranking of world net exporters of the cereal.

Sustainable intensification of Uruguay's rice sector is a multi-objective optimization problem. The challenge is to maximize profits by increasing productivity and reducing costs, keeping country's high standards of grain quality, while minimizing the impact over a suite of environmental variables (greenhouse gas emissions, biodiversity loss, water footprint, nutrient loss, etc.). Since the beginning, the definition of sustainable development targets was carried out along with all actors in the rice production chain, combining in-person consultations and workshop activities as much as possible. In order to analyze the feasibility of the necessary pathways for achieving the targets, a mixed-methods approach was adopted, blending intensive literature reviews with modeling efforts and expert judgment from scientists and academics, stakeholders, and decision makers from the public and private sector.