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Report Highlights:
The Government of Peru (GOP) has taken important steps towards implementation of a biotechnology policy and biosafety regulations. In April 2011, the Ministry of Agriculture passed the Agricultural Biosafety Protocol which provides a framework and details procedures to register, research, and produce genetically modified (GM) crops. The Protocol regulates the law which was passed in 1999. The GOP also objected a ten year moratorium proposed by the Congress. On his comments, President Garcia detailed why this moratorium was not in Peru's best interest.

Section I. Executive Summary:

Anti biotechnology forces in Peru have been very active during the past year. These groups, which basically control the Peruvian mainstream media, have managed to establish a negative sentiment towards biotechnology that is based on fear, tales, and simply lying about the benefits and risks of biotechnology. The Peruvian Congress, which is heavily influenced by the media and anti biotechnology lobbying, passed the Consumer Defense Code whose Article 37 establishes mandatory labeling for genetically modified (GM) products. The regulation to Article 37 has not yet been published since the government has not been able to reach consensus in matters such as a minimum labeling threshold, labeling wording ("contains" vs. "it may contain"), or testing.

In the last few months in office, the current Peruvian administration has taken important steps towards implementing a biotechnology policy and biosafety regulations. In April 2011, the Ministry of Agriculture passed the Agricultural Biosafety Protocol which provides a framework and detail procedures to register, research, and produce GM crops. The Protocol, which regulates the law passed in 1999, was not well received by anti biotech groups who lobbied Congress to pass a ten year moratorium on GM products. Without regard for science based facts, Congress rapidly agreed and passed this moratorium sponsored by the Ministry of Environment. The moratorium initiative also attempted to take away all responsibilities from the Ministries of Agriculture and Health and concentrated them in the Ministry of Environment. On July 6, 2011, President Garcia objected the moratorium draft and sent it back to Congress with detailed comments on why this regulation was not in Peru's best interest. There is not enough time for the current Congress to revisit this regulation since the new Congress takes office on July 28.

The government regulates Peru's biotechnology framework through the Science and Technology Commission (CONCYTEC), which is an entity within the Ministry of the Presidency. The Ministries of Health and Agriculture, as well as the vice-ministry of Fisheries are responsible for regulating all biotechnology-related issues in their respective sectors. The Ministry of Environment is responsible for overseeing safety issues concerning biotech products. Peru has also established the National Committee of Biological Diversity (CONABID), which is a forum to discuss all biotechnology issues. This body is composed of all government regulating agencies with an interest in biotechnology, private sector, universities and international organizations such as the International Potato Center (CIP).

Peru has signed and ratified the Cartagena Protocol on Biosafety; however, it is now looking to establish a law that promotes biotechnology and protects environmental health. Peru's position on this subject has changed as the country has recognized the significant benefits of biotechnology and has developed regulation and procedures to promote the use of this technology. In fact, Peru plans to establish a National Biotechnology Center to link research and trade of biotech products.

U.S. trade interests lie mainly in the Peruvian agricultural poultry and livestock industries that demand U.S. corn and soybean meal. Peruvian agricultural exports, such as papaya and mangos, could potentially benefit from biotechnology as well. Crops for local consumption, such as corn, potatoes and cotton also have tremendous potential for benefiting from biotechnology

Biotechnology is not well- understood by the general public in Peru. There is a constant, and well organized, misinformation campaign carried out by anti biotech groups that are permanently spreading fear and non-scientific facts. Capacity building and outreach activities have been, and are continuing to be, executed by FAS/Lima, to inform and create awareness among government officials and the private sector of the benefits of biotechnology. In FY 2011, these activities will include sponsoring seminars and workshops with the public and private sector both in Lima and in provinces, sponsoring Peruvian scientists to international conferences and taking Peruvian farmers to visit farmers in other countries in the region that have adopted biotechnology.

Section II. Plant Biotechnology Trade and Production:

Peru imports biotechnology crops, including soybeans, corn and cotton. Main GM suppliers to Peru are Argentina, Bolivia, Paraguay and the United States. Peruvians utilize soybeans as a major source of protein. In Peru, soybeans are used for animal feed, direct consumption, and for processing into oil.

Peru does not commercially produce any biotechnology crops. However, the International Potato Center (CIP - Centro International de la Papa) in Lima has developed a genetically modified potato engineered to repel the potato moth. The

potato tuber moth (*Phthorimaea operculella*) is the main cause behind the decimation of warehoused potato stocks throughout Peru (and many other countries as well). At present, Peruvian farmers use vast quantities of pesticides to control the moth, which places their health and the environment at risk.

The CIP transferred a gene to confer resistance to the moth into the Revolution potato variety, which is naturally sterile, hence allaying fears of genes unintentionally flowing into native potato varieties. Specifically, CIP transferred the Bt gene (which produces a toxin similar to that produced by the *Bacillus thuringiensis* bacterium) into the potato, now known as Revolution (Bt). However, this potato will not yet be released into the Peruvian market because the Peruvian government has not yet adopted regulations governing the application of agricultural biotechnology

Peru's National Agricultural Innovation Institute (INIA) has been working on a virus resistant papaya. INIA's work is at a laboratory stage but now that the Biosafety Protocol has been approved, they have plans to run their first field trials.

Section III. Plant Biotechnology Policy:

On July 6, President Garcia sent back to the Congress the proposed legislation to implement a ten year moratorium on GM products. President Garcia waited until the very last day to avoid further discussion in Congress since a new Congress will take office on July 28. President Garcia's decision was based on the following arguments:

- Incompatibility with Peru's international commitments on biotechnology. The Cartagena Biosafety Protocol establishes a risk assessment and management approach to regulate biotech. According to the Cartagena Protocol, a GM product can be banned on a case by case basis, after the risk evaluation has been done and based on scientific data.

- The moratorium could trigger commercial sanctions under multilateral trade agreements. The WTO's SPS and TBT committees established clear procedures to restrict trade, which have to be based on sound science and related to a measurable risk. These procedures are also followed by other agreements such as MERCOSUR, CAN and bilateral trade agreements.

- Peru needs to increase its food production. Due to increasing population and foreign demands for Peruvian agricultural products, Peru needs to increase its food production and efficiency. CIP (International Potato Research Institute) has developed a Bt potato which is resistant to a moth that causes up to 68 percent of economic losses every year. Peru's complex geography and weather conditions allow co-existence of both, organic and GM crops.

- Risk to public health. The proposed law included a ban on GM drugs that have a non-GM alternative. Most drugs have a non-GM alternative since they were probably the source from which they originated; however, non-GM drugs are usually more expensive and less efficient for treatment.

President Garcia concludes that:

- The proposed law does not take into account Peru's advances on the biosafety regulations that was issued in 1999.
- A five years moratorium would be sufficient to build Peru's capacity to prevent the flow of genes from GM to native crops.
- A moratorium could be contrary to Peru's international commitments.
- It could reduce trade with MERCOSUR and CAN since they are main suppliers of soybean and corn.
- It would halt all researches on biotechnology, limiting development on agriculture, forestry and medicine.

Biotechnology regulations and a possible moratorium will probably be one of the priority issues to be discussed by the next administration, as biotecnology has become another battle field for ideological discussion.

Peru has a fairly modern law regarding biotechnology, proposed law N°12033, called "Law to Promote the Use of Modern Biotechnology in Peru," waiting to be discussed in the Peruvian Congress. This law has a completely different approach to biotechnology from previous ones. Instead of referring to the risks of biotechnology and how to prevent them, this proposed

law encourages promotion of biotechnology and aims to improve Peru's economic situation by taking advantage of the benefits of biotechnology. The proposed law stresses the importance of strengthening scientific capabilities, educating the population, and establishing a transparent regulatory framework for biotech issues. This law also sees biotechnology as a means to improve the population's nutrition and health as well as food security. Finally, this proposed law encourages the creation of companies to provide biotechnological products and services.

The government regulates the biotechnology framework of the country through CONCYTEC), which is an entity within the Ministry of the Presidency. The Ministry of Health, through the General Direction of Environmental Health (DIGESA); the Ministry of Agriculture, through the National Institute of Agricultural Innovation (INIA); and the Vice Ministry of Fisheries are responsible for regulating all biotechnology-related issues in their respective sectors. These entities must evaluate any safety risks regarding the use of biotechnology, as well as establish and monitor emergency plans in the case of identified dangers.

According to the Biosafety Law issued in 1999 (Law N°27104), known as the Law for the Prevention of Risks Derived from the Use of Biotechnology, CONAM is the government entity responsible for all matters concerning biotechnology. The stated purpose of this law is to protect human health, environmental well-being and biodiversity, and to promote biotechnology research standards to reduce any possible risks during production. This law also established a counseling body, the National Committee of Biological Diversity (CONABID), which advises sector institutions (INIA, DIGESA and Vice Ministry of Fisheries) and proposes regulations to CONAM. CONABID is formed by a variety of government agencies such as the Animal and Plant Health Agency (SENASA), private sector, international organizations and universities. However, the Ministry of Environment since then has taken over CONAM's responsibilities and has become a major hurdle for passing any pro-biotech initiatives. If fact, the Ministry of Environment has supported a 15 year moratorium on biotechnology proposed by the Congress' Native Communities Committee.

In Peru there is a minuscule but well organized and vocal movement against biotechnology. This effort has mostly been led by environmental NGOs, which have been discouraging lawmakers and regulators from enacting laws promoting the use of agricultural biotechnology, arguing that they would endanger human health, biodiversity and organic agriculture production. This misconception often runs parallel to movements that promote organic farming. Traditional producers, mostly in the highland mountainous region are organic simply because they cannot afford or have no access to chemical fertilizers and pesticides. Certified organic farming is a long-term, expensive endeavor whose principal attraction is the reduced use of pesticides and the growing consumer markets both internationally and in Peru. However, there is a tradeoff with production as organic yields are substantially lower than either Integrated Pest Management (IPM) or other "modern" production practices.

A principal factor influencing regulatory decisions on biotechnology is that of Intellectual Property Rights (IPR). New developments in agricultural biotechnology will require an efficient and transparent IPR system. Producers interested in this area in Peru will require protection for their investments in certain GM crops and natural resources. On the other hand, native communities or local governments will want rights over their natural resources, and expect to receive compensation (such as royalties) for the use of their resources in biotechnology developments. An IPR system with either plant variety protection or patents would give the owner an exclusive right to their biotechnology crops from potential "copy competitors." With a good IPR system, Peru would benefit from protection of genetic resources used in production, thus safeguarding investment from abroad.

As required by the bilateral Trade Promotion Agreement with the United States, Peru has acceded to the International Union for the Protection of New Plant Varieties (UPOV) and is in the process of adapting the implementing regulations.

Peru has signed and ratified the Biosafety Protocol but has not implemented it. Peru has found a way to interpret the Biosafety Protocol of 1999 to develop a law without contradicting the main regulations stated in the Protocol. The Law to Nationally Promote Biotechnology, which is currently in draft, will serve to expand biotechnology developments in Peru. This law requires regulation and promotion on scientific research, technology development and business innovation to increase economic benefits without disrupting human or environmental health. The Law calls for a National Biotechnology Plan that has already been written by CONCYTEC scientists. This Plan will prioritize crops and strategies to develop and use biotechnology products. Peru has a strong scientific community and a potential to become a biotechnology research country. Peruvian Universities and the CIP are examples of institutions that can contribute successfully to innovations in

biotechnology.

Peru does not have biotechnology-related trade barriers but has pending legislation regarding labeling that could negatively affect U.S. exports. FAS/Lima is closely watching these proposals and has been successful to date in working with Congressional and other government contacts to discourage further development of such legislation.

Section IV. Plant Biotechnology Marketing Issues:

Labeling constitutes the principal marketing issue for agricultural biotechnology in Peru. The Consumer Code establishes mandatory labeling, however, the Code is yet to be regulated. If labeling is required and enforced based on consumers' rights, compliance will be a very expensive process for most companies. Labeling would have to include a verifiable description of production technique and all inputs to production. This topic raises questions such as:

- When a product is considered genetically modified? and,
- What constitutes the minimum requirement for a product to be genetically modified?

There are several problems with the drafted regulation to Article 37 of the Consumer Code:

- The regulation states that the label must detail the percentage of GM content for each input that exceeds the minimum threshold of detection (TLD in Spanish) instead of the final product. It would be extremely costly and practically impossible for the Peruvian industry to test every single input that goes into their final products. Moreover, other countries that enforce mandatory labeling always refer to final products not inputs.

- It is not clear what would be the process for setting the TLD or what are the scientific and technical considerations that would be consider to establishing such standards.

- The government has no capability to enforce this regulation since it would have to trace every input of the food chain and it does not have the infrastructure, personnel, or budget to carry out such a titanic task.

- If this regulation is implemented and enforced for imported products it could become a technical barrier to trade (TBT) with implications in lieu of WTO commitments and the U.S. – Peru Trade Promotion Agreement.

- If the regulation does not apply to imported goods then it would discriminate against local production.

- It will force the industry establish a testing system.

- It would be more efficient if INDECOPI would accept a statement such as "it may contain".

If and when this regulation is approved and enforced, it could potentially create a serious disruption in Peru's food industry. Forcing the industry to test every product and input will cause the prices to rise, thus, affect consumers. According to industry estimates there are over 30,000 products containing GM elements in the Peruvian market; labeling all of them will not have an effect in terms of improving food safety or assuring the quality of the product.

Several stakeholders continue to oppose the presence of GM products in Peru. The Minister of the Ministry of Environment has proposed declaring Peru "free of GMO products" to both protect native products and develop Peru's organic and natural food product industries. Several regions, including Lima, have declared themselves GM free. Of course these are only rhetorical statements since Peru imports significant amounts of GM products that are distributed nationwide.

Section V. Plant Biotechnology Capacity Building and Outreach:

In Peru, US Government/USDA-funded capacity building and outreach activities relating to biotechnology with various purposes include:

- FAS/Lima works closely with the Minister of Agriculture and its advisors in promoting a biotechnology friendly environment among the GOP.

- FAS/Lima also works closely with the Minister of Trade and his staff to assure that they are aware of the commercial consequences of restricting GM trade.

- FAS/Lima works closely with CONCYTEC, providing contacts and information on biotechnology to develop the National Biotechnology Plan.

- FAS/Lima has organized seminars on biotechnology for policy makers, leaders of agricultural industries, academia and congressmen. Seminars are used to raise awareness in the Peruvian government and private sector on the importance of developing agricultural biotechnology.

- USDA, through the CGIAR system, provides funds for CIP to carry out research, including biotechnology, on potatoes and other tubers.

- USDA has sponsored Peruvian officials to attend biotechnology-related forums. This includes both APEC and Codex meetings.