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Implications of regionalization and risk assessment for developing countries

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L'importation d'animaux et de produits animaux a été basée sur le statut d'un pays entier en ce qui concerne un agent pathogène donné ou une maladie déterminée. Cette doctrine, qui veut que le pays doit être libre, a servi à empêcher le mouvement d'agents indésirables dans une grande partie des pays plus développés. Néanmoins, les producteurs dans les pays qui n'ont pas un statut en santé animale favorable n'ont pas pu participer au commerce international et ces pays sont en général les pays tropicaux de développement. Les traités internationaux actuels sur le commerce (GATT et NAFTA) demandent que les pays soient considérés par régions en ce qui concerne les réglementations d'importations pour la santé animale. La régionalisation, combinée à une évaluation consciencieuse de risque, fournit des incitations potentielles pour l'amélioration de la santé et la gestion du bétail dans une zone locale et forme également la base d'autres avantages pour les nations de développement.

Mots clés : Animal domestique - Produit animal - Transmission des maladies - Commerce international - Restriction à l'importation - Pays en développement.

INTRODUCTION

International trade policies in agriculture are ostensibly designed to maintain plant and animal health among trading partners. However, agricultural commodities have also been subject to tariffs and trade barriers in addition to measures enacted primarily for agricultural health. It has been increasingly difficult to sort out which policies were legitimately necessary for biological reasons.

Historically, the approach to imports is similar around the world and can be illustrated by briefly reviewing the U.S. situation for animals and/or products (2). The U.S. considers the animal health situation of a country for a particular disease agent, and that country is declared "free" or "not free" of that agent. After the designation is assigned, protocols and other restrictions on animal or product imports from that country are prepared to assure that imports from that country, if permitted, pose "zero biological risk". With some exceptions, this policy treats countries as single homogeneous and indivisible units. As a result, trade policies have been extremely restrictive. These "zero risk" trade policies have also been subject to political manipulation which have not always had adequate scientific review.

Restrictive import policies have been successful in keeping exotic disease agents out of the U.S. and these concepts are reflected in trading practices of many other countries. When these policies were first developing, veterinary diagnostic capabilities were less advanced than at present, so these historic policies have served their purpose. One effect, however, has been to restrict trade of animals and animal products to those countries with advanced animal health infrastructures. Individual producer initiatives to improve husbandry practices are not encouraged by the "country doctrine". Producers in countries without favored health status have not had the incentive of potential export markets for improving the health of their animals.

Further consideration of these historic policies raises several important issues. First, there is no "zero risk" in biological systems. Biological systems and manipulation of them inherently involve risk. In addition, extremely restrictive import policies with no legal recourse invite smuggling, thus introducing unknown hazards that may not be traceable should the hazardous event occur. Thus, unknown hazards may lead to risks that are less easily contained than are known ones. Second, agents and disease are never homogeneously distributed. Geography, climatology, host range boundaries, and husbandry practices are important determinants of agent and disease distribution. For example, U.S. records show that brucellosis in cattle is restricted to a few states in the Southeastern and Southwestern parts of the country and even there, affected herds are non-uniformly distributed. We regionalize for animal health purposes within the U.S., but have not consistently done so for international trade.

In an increasingly open world trade market, demands are made for clear and defensible explanations when commodities are prohibited from moving from one country into another. These new demands require a country to justify exclusions on a biological basis and to recognize the non-uniform geographic distribution of agents. The outcome is major emphasis on regionalization and risk assessment to make management decisions about movement of commodities between countries.

NEW PARADIGMS : REGIONALIZATION AND RISK ASSESSMENT

In contrast to the country boundary, yes-no approach to animal and product importation, regionalization and risk assessment bring a different perspective to international

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animal health. Regionalization recognizes that disease agents are not uniformly distributed within a country. It focuses on that part of a country or adjacent parts of countries from which an import will be generated. A region may be as small as a single premise or as large as a group of countries which choose to associate as a region for a particular exportation event or a general trading consortium. The collection of countries that make the European Economic Community (EEC) is an example of this sort of association.

Once country borders are no longer used to delineate bounds of animal health, new methods must be in place to maintain healthy national herds in importing countries. Risk assessment is the tool to assure national and international herd safety. Risk assessment is an activity which defines the hazard(s) to the importing country, describes quantitatively the likelihood of that event occurring and the magnitude of effects of the event if it did occur (1). From information such as this, the risk manager can make decisions about the import and what mitigation measures, if any, must be applied to allow the importation to occur with safety.

The hallmark of risk assessment is its scientific approach. Given the same information and assumptions, risk assessors will come to similar conclusions about the measure of risk. It is an objective measure. The risk assessment must be consistent, transparent, flexible, and documentable.

If regionalization and risk assessment are to work toward free international trade with protection for international animal health, all nations and regions must be subjected to the same scrutiny, using the same standards. The challenge is to develop systems which are accepted by all participants and which evaluate all by the same criteria, and accurately pinpoint risk.

Risk management, a part of risk analysis which concentrates on things such as policy, politics, economics, and diplomacy, also focusses on the acceptability or safety of given risk levels. There may be trade offs among the biologically assessed risks and other factors in risk management. However, the risk assessment and the risk management process should remain separate items.

HOW REGIONALIZATION AND RISK ASSESSMENT BECAME IMPORTANT

The world has become smaller with faster and more accessible travel, and instantaneous world-wide communications. Philosophical recognition of the one-environment/spaceship earth concept has played a part in changed perceptions. These perceptions may lead to making all the world as one. Continued efforts to make international trade free of tariffs and other unnecessarily restrictive

regulations have led to acceptance of the General Agreement on Tariff and Trade (GATT) and the related North American Free Trade Agreement (NAFTA).

Even if these events had not occurred, the falling of the Berlin Wall, the break-up of the USSR, and the union of Europe into the EEC would have required some adjustments in the business-as-usual philosophy. For example, the EEC when fully implemented, will no longer recognize country boundaries for trade within the EEC. Ignoring the new functional geographic boundaries will result in biological risks since the new boundaries have a different meaning than in existing protocols and regulations. In addition, refusing to recognize the new EEC boundaries introduces political risks which pose economic hazards for those desiring future trade.

The former USSR poses other problems. The monolith has been broken into many subunits with political boundaries still shifting. Discipline has broken down, and war and other problems seem to inhibit the establishment of new stability in these areas. In these times of rapid change, it is far more reasonable to rely on particular and specific risk assessments than on the old "country freedom" doctrines.

ADVANTAGES TO REGIONALIZATION AND RISK ASSESSMENT

Overcoming concerns

In this major paradigm shift, international standards for regionalization and risk assessment will eventually be developed and applied equally to all participants. The advantages of regionalization and risk assessment have only cautiously been addressed. Generally the topic has been focussed on the disadvantages to a country if it fails to change, that is, the exclusion from continued participation in international trade. Though this may be true, there are advantages to regionalization and risk assessment that transcend this negative vision. Overcoming concerns about the new paradigm can open markets and opportunities the world around. Indeed, there are advantages for developing countries, for developed countries and for the entire world.

No zero risk

Regionalization and risk assessment would respect scientific facts. There is no "zero biological risk". A careful scientific review of import requests would provide a more realistic view on risk and lead to a better understanding of the actual risks involved.

Respecting geographic facts

Since diseases and agents do not respect political boundaries but rather other geographical, climatological and host range boundaries and husbandry practices, formal recognition of that in our trading practices is based on reality. All parties must realize that diseases may be restricted to one small part of a country and not be widespread in livestock all over that country. Scientific examination of the hazard and a good risk assessment allow for fewer political restrictions on trade, allowing free movement of trade while safeguarding animal health.

Strengthening animal health infrastructures

Accurate and up-to-date information on which to perform regionalized risk assessment places a premium on animal health monitoring and information capabilities. This, in turn, may encourage good record keeping which ultimately can give producers information useful to improve their individual operations.

Most tropical countries are classified as developing nations. They generally have underdeveloped animal health infrastructures, and virtually have been excluded from participation in international agricultural animal trade. Many of the diseases on the OIE List A and B diseases are associated with developing countries and/or the tropics. Regionalization and risk assessment could provide strong incentives for producers inside developing countries to make specific local improvements for their herds. A new impetus for investment in agriculture in developing countries may result. This could lead to localized animal health improvements and thus for incremental improvement of animal health within a country.

Taken together, economic incentives and success in participating in international trade could stimulate the developing country to further spread animal health improvements. This could lead to gradual and substantive improvement of veterinary infrastructure in a country, resulting in healthier national herds. This, in turn, may lead a developing country to improvement of veterinary infrastructure for dealing with other animal health problems.

Improved national herd safety

Extremely cautious import policies invite smuggling of highly desired products, thus introducing a hazard, but without adequate knowledge of that hazard and what risks it might convey. With fair consideration of a request to import smuggling could become more onerous than the legal alternatives.

Encouraging genetic diversity

More open trade can aid in the preservation of genetic diversity by helping preserve valuable genes for resistance to disease, adaptation to harsh climates, good production in adverse environments, and others. Easier movement would facilitate the improvement of animal breeds and production for the varied agricultural climates, especially tropical ones, around the world, and encourage the development of new breeds.

The freer flow of genetic material would permit more rapid development of gene banks to save the biological heritage of rare breeds and unusual disease resistance genes. This could in turn yield benefits to developing countries as breeds more suited for tropical climates while sporting the high production genes of modern breeds are melded. The animal protein production capacity of developing countries would be elevated.

Healthier and better adapted animals require lower levels of therapeutic intervention thereby decreasing the likelihood of drug residues in food from animal sources. A decrease in use of antibiotics can slow the selective pressure toward bacterial resistance, an advantage to human as well as animal health.

Insuring consistency

Regionalization would legitimize in a general way what is already done in specific instances. For example, Spain was regionalized for the purpose of the equine athletic events in the Barcelona Olympics of 1992.

Regionalization would make consistent the current and common within-country regionalization for internal animal health security. An example in the U.S. is regionalization for brucellosis and bluetongue.

Last, but not least, regionalization has long been practiced successfully by our colleagues in the international plant health community. Developing regionalization strategies would bring more consistency to agricultural import policy overall.

Improving veterinary capabilities

Together with the need for better animal health monitoring and surveillance, regionalization and risk assessment will demand promotion and strengthening of veterinary education and the veterinary profession world-wide. It will give the veterinary profession and its auxiliary sciences more visibility and a larger role in international animal health. Development of better ways to accomplish monitoring and surveillance and to contain outbreaks will be a boost to veterinary epidemiology. An example of a new

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approach to the problem of exotic disease outbreak is the rapid epidemiological response teams established in EEC.

Encouraging international cooperation

Improved field epidemiological approaches will argue for joint educational ventures and further international cooperation.

The required scientific review of import requests will require risk assessment. If all countries were to strictly adhere to a common approach, such systems would require and promote international cooperation. Data collection, data sharing, data analysis would gradually become an international activity, putting all countries on equal footing in terms of systems of evaluation of imports.

Improvement of human health

Improved animal health in developing countries can provide several benefits. First, an improved animal protein supply would contribute to the nutrition of the population. Improved animal health would decrease zoonotic disease thus decreasing disease prevalence in humans. Decreased use of drugs because of better adapted and healthier animals would decrease the likelihood that drug residues would remain in animal tissues. Invigorated animal health industries can provide employment, a better future for rural populations and make significant contributions to rural development and human health.

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Animal and animal product importation has been based on the status of an entire country with respect to a particular agent or disease. This doctrine of "country freedom" has served to prevent movement of unwanted agents around much of the developed world's countries. However, producers in countries without favored animal health status have not had the opportunity to participate in international trade, and these countries are largely the tropical nations of the developing world. Current international trade treaties (General Agreement on Tariffs and Trade and the North American Free Trade Agreement) require that countries regionalize for animal health importation purposes. Regionalization combined with careful risk assessment provides potential incentives for improvement of livestock health and husbandry in a local area and forms the basis of other benefits for developing nations as well.

Key words : Domestic animal - Animal product - Disease transmission - International trade - Import control - Developing country.

CONCLUSIONS

World trade and its political geography is changing, bringing demands for new paradigms and new responses. In turn, regionalization and risk assessment will change world trade, opening new opportunities for agriculture in developing countries as well as provide advantages for developed countries. The challenge is to implement these ideas. The goal is accurate risk assessment and responsible risk management which are keys to healthy international herds and free international trade.

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Las importaciones de animales y de subproductos animales son reguladas en cada país, en base a un determinado agente patógeno o a una enfermedad en particular. Esta doctrina de "libertad de cada país", ha evitado en la mayoría de los países desarrollados, la propagación de agentes no deseados. Sin embargo, los productores de aquellos países con un estado de salud desfavorable, no han tenido la oportunidad de participar en el comercio internacional. La mayoría de estos países, son naciones tropicales en desarrollo. Actualmente, los tratados de comercio internacional (como el Acuerdo General de Tarifas y Comercio y el Acuerdo del Libre Comercio en Norte América) requieren una regionalización de los países, con el fin de comercializar en el campo de la salud animal. La regionalización, junto con la evaluación cuidadosa del riesgo, provee un potencial de incentivos para mejorar la salud y la producción animal en una región determinada e implanta al mismo tiempo, las bases para la obtención de otros beneficios por parte de las naciones en vías de desarrollo.

Palabras claves : Animal doméstico - Producto de origen animal - Transmisión de enfermedad - Comercio internacional - Control de importación - País en desarrollo.