

“Food Security and Agricultural Development in the Americas”

Opening Ceremony of the UWI Food Security Conference

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The Gold Room

Mona Visitor’s Lodge and Conference Centre

UWI, Mona

Thank Derrick for that introduction, Mr. Chairman, Principal of the UWI campus, former Governor General Sir Kenneth Hall, other distinguished members of the University Community, my colleague, my friend Dr. Braithwaite of IICA and his team, thank you very much sir for travelling all the way from Costa Rica to be here, members of the farming community, ladies and gentlemen, good evening to you all.

Let me thank you firstly for this opportunity to speak to an important stakeholder group or range of stakeholder groups linked to agriculture and of course in particular to thank the University of the West Indies under the guidance and leadership of Professor Shirley for hosting and for putting together this very important function in terms of defining a research agenda to influence the relevance of academic institutions and other institutions of research and learning.

Agriculture, even though at times we are ignored, and I say that because the evidence suggests that in a number of areas, represents at all times in the Jamaican context a relevant area of study. The basic numbers support it. STATIN says we have 226 thousand farmers. If you apply as I tell people a family of five and in rural life, family of five may be conservative, you looking at close to a million Jamaicans, anywhere between 800 thousand to a million who depend directly on agriculture to survive Talking about the spouses of farmers and their children of a population of 2.7 million that seems to me quite a current, relevant, topical issue that should be at the lines of the research and development agenda of any country. We are an agrarian society whether we like it or not, we’re not a tourism society as important as that is. We must work to further develop it and to tap into it but the truth is Jamaica is a country that has gained the stability that it has from the efforts of primary producers and has been so for some time. I think it is important for us to remind ourselves of that because I think it’s an important issue in considering how relevant it is to focus on agriculture as an area of training. So I want to commend the University for this initiative because I think it is timely. It’s timely not just in the local context but its timely because of who we are as a people, as a country and certainly as a region.

The truth is that food security is now a current topical issue for part of the global agenda and rightfully so. If you look at all the discussions that have taken place at the regional and international level and certainly at the local level in a number of countries including Jamaica, if you look at the utterances of the IMF, World Bank, UN’s FAO there is a general consensus that we have to change course. We have to now rethink the way we approach as a world, as a region and as a country, our food security needs based on what is happening currently and what is likely to happen over time. The UN’s FAO is predicting that the challenges that we have faced over the past year and a half 2 years as it relates to commodity prices, are not cyclical challenges. They’re not challenges that have occurred and will go away totally but there is a strong element of

structural adjustments that are taking place on the Global front as it relates to commodities, both its supply and its prices.

Poverty indicators suggest that the past year and a half, again looking at the debate and the discussion of the data coming out of these agencies, that over the past year and a half we have seen some 100 million Jamaicans being placed back into the poverty profile based on how you define poverty as a result of what has transpired over the last year and a half wiping out gains that have been made over a decade before that, just within a year and a half and clearly that is an alarming piece of statistic. The UN world population prospects 2006 suggest that over time if you monitor population expansion globally, world population is slated to increase by 2050 by some 37% or 2.5 billion people which will mean a population of some 9.2 billion persons living in the world. That has severe implications as it relates to our capacity as a country and you can break that down to the Americas and to nations like Jamaica to feed or to provide the nutritional sustenance that we need as a people.

The FAO says that by 2050, in terms of the projected population expansion cereal yields must increase by some 40%, that is rice and other forms of cereals. Irrigation infrastructure must increase by up to 40% which means some 200 million hectares of land over that time must now be put into production with proper irrigation infrastructure. Water and the management of water, currently 75% of the water that we reap, whether from aquifers or other sources is used in agriculture and a fair bit of that is wasted because of poor management techniques. It's a finite quantity and if you look at the projections in terms of population expansions, then the challenge of managing that critical resource as part of the preservation of life and certainly the development of primary production is a critical challenge and we are going to have to confront that.

In addition that, climate change which we have to a large extent as a world (many of us have lived in denial about the impact of climate change), is becoming a much more current, topical issue because of the implications that it will have and is having over time. For small vulnerable states like Jamaica, island states, we have felt the impact of climate change with more severe weather patterns.

There are other factors that are going to impact our capacity and the challenge that we face to provide for ourselves as a country and as a region and as a world. There are countries like China that have done well over time and are demanding a lot more food to feed their people, consumers that are a lot more sophisticated because of their earning power and that is progress but it has implications in terms of what we do as a country. The fact is that large economies like China and India will impact almost every commodity that you can think of in terms of prices because of the sheer size and population of those countries. And as they progress, as they generate greater levels of income, expand in terms of growth that is going to create additional challenges for the world and certainly for small countries like us. I was looking at a piece of statistic on China which indicated that over the past decade China's milk consumption for example has increased 7 folds, 700%, vegetable oil 200%, poultry 60%, beef 30% and I could go on. Again, speaking to an expansion in demand which is being challenged by not a similar expansion in production-expansion and distribution, and, distribution is quite important.

There is also for us I think the challenge of global trade and I crave your indulgence tonight to be provocative because I think it's important that we think about issues even if they appear on the

face of it to be controversial. But, there are different perspectives on global trade that I think requires consideration and debate and to some extent we are at a cross roads. How has global trade affected us as developing countries? Has it worked for us in a positive way? What are the positives and the potential consequences or negatives of our own interpretation and implementation of global trade? I think it requires some study, I think it requires some examination because there are both sides to the argument. The fact is that trade liberalization and how it has been interpreted and implemented in countries like Jamaica have marginalized, this is my view, our local productive capacity. There is even an argument to suggest that policy has, in this area, has discriminated against the building of local capacity and there are a number of reasons for that. I think part of it is a lack of understanding by those who are given the responsibility to appreciate the long term position or prospects of an argument which says listen allow those who can produce in mass quantities to produce and you focus on something else which means accessing cheaper foods and more often than not those cheaper foods represent subsidized foods. What has happened I think is that, in very advanced countries in the developed world, we have seen where subsidies have supported excess capacity because, primary producers are motivated to produce without fully appreciating the fundamental factors of production, the need for cost as opposed to the link between cost and revenues and that position of comfort has created excess supply.

What International Trade has done in terms of its extreme interpretation, I am not criticizing international trade because I think International trade has been good in several respects, it has alleviated poverty in a number of countries by providing a cheaper source of food and that's important but in terms of the structural distortions that it has created when it is characterized by major subsidies in the advanced or the developed markets, it has acted to the disadvantage of local economies like Jamaica and small vulnerable economies like Jamaica. I think it requires a rethink, I really believe that from a research perspective it should be examined carefully and from a policy perspective we need to take stock and determine how we proceed in order to build local capacity. It's not an issue that mainstream discussion takes on very much because of a fear that you may be viewed as being anti- free trade. So what you find is that, to a large extent, fringes of the main stream takes on the discussion and it doesn't find its way in the corridors of major decision making. Its going to be important I believe given what we have facing now and what the projections are suggesting going in the future and they are encouraging signs.

The G20 met and discussed the need to provide aid but not aid in its traditional form of cheap foods which normally is subsidized food. They're saying we want to help countries to build capacity, so we are providing resources to help farmers to put infrastructure in place to build and to enhance productivity because that is a more sustainable model as opposed to providing what is cheaper. I could go through some of the data here on subsidies provided by the EU, the EU common agricultural policy, the US farm bill, I took something off the USDA fiscal year budget which looked at the allocations to certain critical commodities. The US Department of Agriculture requires by law to subsidies over two dozen commodities. In 2004 or 2005 I think it is, feed grains for example got 2.8 billion dollars worth of subsidy, wheat 1.17 billion dollars, rice 1.1 billion US dollars, Soya beans and I could go on, dairy, peanuts sugar and so on.

Now, the argument being advanced by the developed world is quite clear, quite transparent. Food security for them is a strategic imperative, it is a matter of national security and they are not going to compromise on that because if they can't feed themselves they're vulnerable. Now, what is our argument? I think it is something we need to look at. I really believe we need to think

about it. We have been the beneficiaries of that. The subsidies in Europe over a number of years provided us with a cheap form of protein, milk. But, over time when those subsidies were eroded or discontinued or redirected we saw milk prices in Jamaica moving at a point which made it prohibitive for the most vulnerable groups. But in the mean time when we as a policy pursued that strategy while we pursue that strategy we lost some 500 farmers who were involved in dairy production. Milk farming in Jamaica over a decade or little over a decade fell from almost 40 million litres per year to last year where it was just over 14 million litres per year. Then the subsidy or policy was changed in Europe and we were left with a structural distortion that undermined our capacity to provide that very important nutrient. I think it requires examination, is that an appropriate strategy to pursue? It is going to require some study and certainly I believe that the like the University of the West Indies and others must place that as an important agenda item to inform and to educate other stakeholder groups like policy makers in terms of the way forward.

The extremists will say that some 6 million farmers in North America who benefit from the American Farm Bill in a sense provides the level of distortion that could possibly impact some 3 billion farmers in the rest of the world if you take out Europe. That is a significant or a piece of statistic to ponder on. My own position is that over the last 20 years, and the evidence supports it, Jamaica's interpretation and implementation of the trade liberalization model has been bad for us as a country, not that trade liberalization is bad, but our own interpretation and implementation. The truth is even while we are yet to fully agree on the terms and conditions of a WTO arrangement, and those who understand it knows where the sticking point are, it is again linked to issues of subsidies and access. Even before we get there, there are provisions under WTO that allows countries like Jamaica to exercise certain options that preserves expanding local capacity. Unfortunately, we have not exercised those options. In fact, we have moved ahead of the schedule in order to implement what we felt at that time was our salvation, our access to the world and the need to get access to cheaper foods.

I can understand why policy makers would be pressured to focus on that because we are a developing country and we have poverty levels that will be of concern to all people but again, there are short-term and longer term consequences. It is important for us to appreciate the long term consequences which I think 20 years is sufficient time to give us a proper understanding. I would like to see places like the University, IICA and others look at the last 20 years of trade liberalization in Jamaica and quantify how that has created a more food independent society or food sovereign society, not necessarily independent because you will never produce everything you want but at least sufficient to allow for a critical mass to be comfortable which we are not now. Sixty percent of our food basket are imported, 850 million US dollars of imports last year. While it has come down in terms of volumes, it is still a fairly significant level.

For 20 years, up to this point we have seen in Jamaica some 30% reduction in food volumes. We have seen productivity levels fallen by almost 18% and again it points directly to a marginalization of the primary productive base because of a greater emphasis and a greater preference to trade policy. So I think that now that we are in a sense between a rock and a hard place because we are feeling the impact of the global environment. Now that we have, I think we're at a point where it is quite clear based on the evidence that is projecting over the next 20-30 years that the current model requires some review, some adjustment, I think it is fertile ground for research and for articulating the need for certain fundamental policy changes.

I was talking to Dr. Braithwaite earlier, he paid a courtesy call on me at my home, and I said to him listen, you may know that IICA is going up for re- election for the new Director General this year October here in Jamaica so Dr. Braithwaite is on his final lap so to speak and he has done an excellent job and I want to commend him for that. But, I am the chairman of the Alliance of Agricultural Ministers in the region and we try to coordinate or we are trying to coordinate our approach to supporting a candidate for IICA because we want to ensure that our agenda is represented and there are a number of candidates who are campaigning currently. But I was saying to him that listen I don't think in the last decade there is a better time for voices like ours to now place squarely on the agenda for discussion the need to build agriculture as an important imperative in countries that have and are most vulnerable based on what is happening globally. It is fertile ground and we must take advantage of it but in a way that allows us to pursue a model that is a lot more sustainable than has been the case in the past. The wealthy countries and I hope I didn't appear as if I am criticizing the wealthy countries because that's not the intention, recognize it also. When they meet they recognize that there need to be a policy shift. That is why we hear talk about finding land in developing countries and providing resources to cultivate those lands because they have the same data we have. They know that 10/20 years they will have to provide the sustenance that is required which is fundamental to life and so they want strategic partnerships. They recognize that change has to come and they are moving towards that. We have to do the same here in the Americas we have to do the same as small countries like in CARICOM and others like Jamaica. We need to strengthen our own lobby because the truth is that when views contend, primary producers have the weakest voice and that is something I think we need to address and to overcome.

So where do we go from here? And again I am just going to put out a number of suggestions, identify some of the things we are doing here in Jamaica and hope that this fertile soil that is present here will sap up some of that and help you to drive that process. I think it's important for us, I was discussing with Derrick earlier that we need an instrument or a tool that allows us to measure or to determine food sovereignty. At what point has a country, given what we have in terms of resources, given our vulnerabilities in terms of the environmental challenges hurricanes and so on at what point can we say we are relatively food secure? What I call it is a food sovereignty index. I have said to the academics like Derrick go talk to some of your colleagues and look at all the foods we produce, look at what can be substituted, look at what we have to import and look at what we can grow to replace and come up with an index that I can use or we can use to say listen, in terms of that level of nutrition we are this from where we need to be. I don't know if it is possible but I think all things are possible and the reason why I think it is important is because I think we need to have something that we are working to. We need to have a vision, something that is tangible not just abstract.

Food security is a matter of interpretation, what food security is. What does it mean to us as a country and as a region? It must mean something to us and that must be quite tangible. For example, rice, we consume in Jamaica 100 thousand tones of rice per year. We have grown to believe that if rice is not in our plates then we really not eating dinner. Frankly speaking, and I just told you how much rice is being subsidized in North America and we used to grow rice and rice became an uncompetitive activity not just because of our lack of capacity building in rice production but because we were competing with heavily subsidized rice. That's a fact, the question is do we seek as part of our strategy to minimize our vulnerabilities to international commodity swings, do we seek to restore at least a percentage of that capacity so that we are not so vulnerable or overly dependent? In my view we should at least produce 30% of what we

consume and I know you know about my little rice challenge. Between myself and Roger we still have a little left over. But we started by looking at 7 varieties, we are now down to two that look quite promising one out of Dom Rep called the prosecutor 4, means that it ratoons so it gives you four crops. The first commercial trials that we did suggested that we could reap some 6 ½ tons per hectares which is just above what Guyana reaps in terms of their rice production so in terms of yields we are there or a little above Guyana. Now this was only a 25 acre plot, we are now moving to another phase to see what can be done in terms of small farmer clustering and so on. We are doing that because we took a strategic position that as a critical commodity, it is worth exploring the possibility of growing some of the rice that we consume. Frankly speaking, even if it means the consumer paying 5% above what they could pay from importation of subsidized rice, the benefits of that through job creation through all the other things, the swing that takes place from time to time, it is worth it and again there is ample evidence to support that other countries have done it. You can't import a grain of rice in Japan and the Japanese pay a little extra for it but that economy is preserved in that form despite the WTO. I think an understanding of that is important. The same can be said for chicken, I don't think you can import any chicken in North America, unprocessed chicken, that's an important sector and I could go on and on. So the question is, can we come up with an index that could help us as a country to work or develop a work program that we have a level of independence in terms of what we produce? And I am challenging the research community to help me to look at that because that is something I think can help us tremendously.

I think we have to become a lot more sensitive to the market place and allow the market to drive our production activities. We have been over the past year and a ½ been a lot more sophisticated in trying to understand end users. Our position on end users in Jamaica we have four, the tourism industry, the consumer market- the regular local consumer market, the agro processors and the export markets. What I've done is hired a number of marketing experts in the parishes, at the head office in Kingston and we have tried to establish a tracking system to always appreciate what the market is saying in terms of what they require and how they require it and use that data to support the primary production activities in the field. So if the market wants a particular type of carrot then we should grow that type of carrot because that is what will influence the success in that market place and that for us has been working because it is now opening up the lines of communication with our end users and allowing them to provide feedback to our primary producers.

One very tangible thing that we are doing which has helped over the last year is a database which audits farm gate prices of produce weekly and sends that information out electronically to over 2000 purchasing officers throughout the country whether they are supermarket owners or they are hotel owners and they have an idea of what foods are available, where it is available and what is the going market price with farm gate price and they use that to source for their consumption or to negotiate with middle men who from time to time are less than transparent with their information in order to get maximum returns on the food that they support. So for us marketing is important and we are still working on that database. Derrick is a very critical part of that and again that to me is a very important part of the research agenda.

The issue of small farmers is for me very critical, 76% according to STATIN of our over 220 odd thousand farmers are considered small, 1 hectare or less cultivating on. But, there are certain things that small farmers will not be able to achieve, economies of scale is one such thing. Many of them are not formally trained, they learn through a process of apprenticeship and so for them

it is important that we devise a strategy because it is a reality we face. Small farms are actually expanding when you look at the trend analysis which for me is not a good thing because what it means is that you are splintering your farmlands and there are all sorts of consequences that accompany that but the reality is that you have a lot of small farmers. So, the idea of clustering those small farmers to share in common technical support is absolutely fundamental. So RADA now becomes a very important part of the thrust going forward. Over the last year we have expanded RADA by well over a 100%, put in more extension officers so we have brought down the ratio of extension officers to small farmers. And we did one other thing which I believe is absolutely critical which we are still trying to understand how to manage it, which again could be a very important part of the research agenda. We have started to organize small farmers in groups and then in clusters, so we launched or re-launched because it was there on the RADA books when RADA started in the 80s, the production and marketing organization and what that has done is essentially organized community based farmers groups, minimum of 20 members, as much as 100 members, farmers within a similar community with an executive registered with RADA who organize themselves to address common challenges that they face in the field with the RADA extension officer being the technical support to that group. And last year we have organized over 800 such PMOs representing some 30 000 farmers across Jamaica. In fact we launched our Inaugural PMO Conference at the Trelawney Stadium where we put on display a number of new techniques, training sessions and classroom sessions for these small farmers because we believe that the only way to advance small farmer technology and small farmer technique is to pull them together. It is hard to deal with them individually. That programme I think is working but it needs further strengthening. One area of strengthening is the group structure. It's not everybody who understands how to organize a group and keep a group strong and keep a group going. What does it mean to be president of a PMO for example, what's my role and responsibility? In the research world I could provide you with 500 presidents of small groups. That's a publishable document Prof. Shirley to get it in the research journal and it could help me in the process to know how to deal with them but they are there and part of the process is to train extension officers to help them to organize and to do what is necessary in order to move that process forward.

The RADA restructuring has been critical. We have done a couple of things. We have equipped RADA extension officers with extension kits so they can do things like soil sampling and so on. We have put them in uniforms because we believe they need to be presentable, good for perception management also. We have require that every RADA extension officer re- certifies annually by undergoing at least 60 hours of training in order to keep them current with the technology that is necessary to provide proper advice. We had some RADA officers who were trained 20 years ago and frankly speaking they're outdated. What we are saying is that if you want to stay in the business of providing advice then you must know what advice to give and the advice must be current to the challenges that we have. All have signed on to that and we're working on that and I think that would mean better technical support.

The issue of encouraging medium to large sized farms is a separate strategy which I think is important. There are some crops which are better positioned in medium to larger size farms and we are talking about 10/ 15 acres or more. Fruit tree crops for example, if you want a proper fruit tree crop program you can't plant that on a ½ acre or a ½ hectare of land and so we are looking at how to encourage and develop that. But that is not going to be developed if we don't support the fundamental principles of business in agriculture and that is why we believe that we have to take

an agro-investor approach as opposed to a welfare approach which is partially the problem with agriculture today.

We see agriculture as a subsistence existence, a welfare activity, people who grow just to survive and there is a segment of the population who is just going to grow only just to do that and we have to make provisions for them. You know they want a couple bag of fertilizers and that's all, no matter what you try to talk to them about all they want is 2 bags of fertilizers and some seeds. But there is another element particularly among the younger population who needs to view agriculture as a business where there are cost issues, there are cash flow issues, what you put in you get out, there are marketing related issues and what we are trying to do is to encourage and develop through the setting up of a new entity which I just got cabinet to sign off on that new board, Agro-Invest Cooperation, and that entity is going to package agricultural investments whether it is land or ideas based on market studies and so on and literally sell those agricultural investments to entrepreneurs.

We had our first agro-investment seminar here on campus. We had over 3000 persons passing through and at the end of the day we had some 800 expressions of interest on a range of agricultural investments, traditional and non-traditional. And we are now using that entity to develop on those ideas and to try and match ideas with investment opportunities because we want to create a new breed of individuals who see agriculture as critical business. Now to do that, we have to develop research capacity because we have to build capacity in agriculture.

Part of the marginalization of agriculture is that we have not spent time to look at how to advance yields or productivity levels. That's another big research area. Last year as Gordon was saying we launched the Centre of Excellence for Advanced Technology in Agriculture which is, we have research entities which is Bodles which is sort of our main research entity, we have a number of satellite locations around the country but what I found very missing and may have been through my links to the University of the West Indies and also to private sector, there is not a strong enough synergy between the academic fraternity, the research fraternity and applied knowledge and implementation of best practices in industry and I say this generally but particularly as it relates to agriculture One of the first things I did when I became Minister I travelled to all the critical research entities, I went to CASE, I went to UWI, spoke to the Principal of UTECH, NCU and so on and I profiled the research agenda of these institutions as it related to agricultural development. There was in fact quite a menu of areas that were being studied but when you started to request information on the application of the research agenda with farmers in the field. in other words, how does your tissue culture experiment which looks glorious in the lab affect farmer Brown down in St. Elizabeth which is trying to grow sweet peppers or hot peppers then there was a silence. And there are all sorts of reasons why, some valid some may be an excuse I don't know but the fact is there is a gap. And so what we did very early I said to my guys, listen I want to create this entity that is going to be based in the Ministry, is going to be almost virtual, it is governed by a board of governors, it has limited physical infrastructure but it is going to be powered to tap into the existing infrastructure that we have nationally, regionally and internationally to ensure that not only is the research agenda relevant to the challenges of the agricultural sector but it is applied once the research is developed and concluded.

And so we have a Board of Governors that is drawn from all the research entities including some of the government entities like the SRC and so on, UWI, UTECH, NCU are all represented. That

entity will use the data from the RADA and the marketing people to determine what are the requirements of the market, what are the challenges of the farmers and use that to try and influence research in any institution that is best suited to do that research. It may be CARDI, the regional body, it may be IICA, it may be UWI, it may be NCU but when that research is completed that research entity must transform that research into a training agenda and use either the researcher or their nominee to develop a training module and to apply that training module to our extension services and by extension to our farmers. What I hope to do or what we hope to do over time is to make a very critical link and by extension enhance the relevance of our research entities and the quality of our farming sector by creating or bridging that gap. Dr. Deslandes is now the head of that entity and he understands academia but he also understands the private sector and agriculture and we are looking forward to great things from that entity.

Land reform is also an important part of moving forward. In Jamaica we have some 1.1 million hectares of land 388 000 hectares considered arable. We have a utilization of about 40% which is clearly not good but part of the challenge again is a lack of information. When I started I asked for an audit of all agricultural lands, not just to determine where the lands were but the quality of the lands, they've started the process, I just got a report on it 2 weeks ago. Quality measured in terms of soil profile, what is the land best suited for? We didn't have that information. The last time a study was done of lands I understand a total soil profile of the Jamaican lands I hear it was 20 years ago, you have periodic updates but the profile is outdated, so we're doing that now, rural physical planning is in charge of that. You want to know, what is the composition of the soils, nutrient levels, if there are soil diseases that are common to an area and so on and also the volume of that? And then also the extent to which that land is being used and then the water irrigation that is so important to that land.

So while we have 388 thousand hectares it could be that a large percentage of that is not so easy to be utilized so we broke it down further to the lands that are to be irrigated. NIC, National Irrigation Commission which is under the Ministry is the agency that is responsible for putting in irrigation infrastructure which gives of course a better profile of those lands. We have some 28 thousand hectares of those lands in Jamaica. The utilization profile of that amount of land is just 45%, that's not good enough, that's poor. What it means is that some of the best lands with the best infrastructure are not being utilized. Now, some are owned by Government some are owned by private people, again they will tell you that it's a lot more than just the land, its about the trade policy, its about so many other things that discourages investments in the land. So what we're doing is trying to package those lands where it is privately owned, we're saying to them listen, if you don't want to use it why don't you lease it to us under the agro-investment entity? We will sub- lease it to an investor to try and get those lands occupied. Where it is Government owned we are using that as an important tool to leverage to attract some of those investors who are interested in land. Then there is the issue of ownership of the land, land tenor, land titling. Those issues are issues that we have to address because as you know ownership or evidence of ownership of your land is a powerful tool to source resources in order to develop those lands. So, we still have a lot of work to do but the issue of land and land management is quite a topical issue that could advance us in terms of our food security issues.

Then there is young people and encouraging young people in agriculture. Last year CASE graduated a 134/37 graduates with diplomas and bachelors' degrees in agriculture. I've asked them if they have done any tracking studies to determine how many of their students actually end up in agriculture and they have said to me that some 50% or so. And why those that have not

ended up don't end up, the response is that the lack of collateral to access resources to invest. And so one of the things that we have been trying to do is to encourage or provide better opportunities to get access to credit in order to get young people motivated to access resources to invest in agriculture. And this is an area I think that international agencies need to reconsider or to rethink the terms and conditions of financing our resources to develop in agriculture. We have to think out of the box in this regard, particularly if we believe that agriculture is a critical way forward if we are going to encourage young people either to be trained or to invest in agriculture. We have to factor the risks that are involved; the natural environment is becoming more volatile because of climate change and other issues. And we have to provide these young people with an incentive. There is sufficient evidence to support offering incentives to provide those resources.

We just benefited from Caribbean Development Bank I think or IDB a 7 million US dollar advance to be lent to farmers and what we have been able to do working with DBJ is to develop a loan insurance scheme which I announced in the last budget that is tailored to a particular farmer, that is profiled by the lending institution whether it's the PC banks, the Credit Union but also involves RADA and the extension officer as having a particular approach to his activity, using these resources that is guided by best practices. So a farmer may be just coming out of CASE, he's willing to put in a business model that speaks to land preparation, soil profiling, irrigation infrastructure, marketing issues so he chooses the right crops and that farmer therefore reduces the risk of failure unlike a farmer who hears that tomatoes are short so he is going to grow some tomatoes. It is a lot more scientific in terms of the approach. Since that farmer profile makes him a less risky investment then we adjust the terms of the loan. We've put in a loan insurance scheme that guarantees 50% of the loan and the farmer would have to come up with collateral for 50% of the loan. So if the farmer is borrowing a million dollars he needs to find collateral for 500 000 dollars and we find collateral for 500 000 dollars. However, the farmer has to comply with certain strict conditionality to ensure that he engages in best practices which reduce the chances of him failing and that program was announced recently. We're going to try it, it is an experiment, if it doesn't work then we will rethink it but what we will certainly do is empower particularly young farmers to get into agriculture.

I think it is going to be very important for us as a country to focus on the value chain as opposed to agriculture as a primary activity. The truth is that our colonial experience has, I think cultured us in a manner where we believe that we should be producers of commodities and that requires a rethink. We have to move from that commodity mentality. Sugar cane for example is a glorious crop. Contrary to what a lot of people believe that sugar cane is dead, I don't believe that. There's enough taking place in the world right now that the versatility of the sugar cane can provide a solution for, whether it is the production of rum which we are very famous for and many people in the world enjoy or it is refined sugar for manufacturing or it is ethanol for energy or it is cogeneration for electricity which is so very expensive. These are all very important products of a crop that is so versatile, if the hurricane hits it, it tilts over and give it a week or so and it comes back up, versatile, it ratoons for many years, we have a history of growing that crop- 300 and odd years, it is something we can't give up on. The problem with sugar cane is that, a couple of things, poor political decisions and weak political leadership has made it into a welfare activity. It is a great absorber of excess labour and unskilled labour and it is good politics to use sugar cane to sap up all that excess labour in the market without any correlation or any relationship with the value that is being created. It is undercapitalized which is another big challenge and is poorly managed also a number of times. And thirdly, we have focused primarily on commodities, providing raw sugar to Europe to refine. That has to change if we intend to get

out of sugar a new dispensation and it requires examination. Now, we are trying to divest the sugar industry, our 5 estates. We have done 2 so far we are working on 3. I have as we speak an Italian company and representatives here in Jamaica. We are discussing looking at the other 3 facilities including the possibility of establishing a refinery. And again, if you think of the relationship to the market the Caribbean consumes some 300 000 tons of white sugar. Our capacity in the Caribbean is about 50 000 tons, at least in Trinidad. Jamaica consumes 70 000 tons, Haiti consumes 100 000 tons. The demand, it means that 250 000 tons of that 300 000 tons has to be imported and within CARICOM, on the special trading relationship that we have, there is an opportunity for us to grow sugar cane and to tap into that refinery. Energy is a big cost but guess what, the sugar cane provides you with energy. We can be self sufficient, use the sugar cane and the bagass to burn and provide the type of energy that you need so that is an issue. So there are possibilities, but as a country we need to start looking at the entire value chain.

We waste I am told, nearly 40% of our produce in the post harvest management of that produce. When you see the farmers on TV demonstrating, they say they grow all of this tomato and sweet pepper and they can't find any market. Most of the times they hear 3 months earlier that tomato short and so everybody rush and put in tomato and by the time the lag effect takes place and it is time to reap, everybody has tomato and so they get into a glut. And so they operate in cycles like this and the big challenge for us as policy makers and as technocrats and as researchers, how do we even out the flow of our food production to ensure that we grow when we can and we preserve and add value to excess capacity? If we solve that problem, Jamaica's food sovereignty index, although I don't know what it means yet, would be in good position.

I'll give you one example of what we tried recently working with Derrick and the team, we said okay, listen we use to grow a lot of Irish potatoes in Jamaica, let's grow Irish potatoes. Soil profile supports it and our varieties are quite tasty. And we went out and we started a productivity program, we identified about 12 crops including Irish potatoes, we went out, we identified the disciplined farmers, we trained them in best practices, we grew the Irish potatoes, productivity yields went up, production levels went up. At one stage we had a million pounds of Irish potatoes in the ground but under normal circumstances you would have seen a couple demonstrations on TV about farmers who can't sell their Irish potatoes. But what we did this time, we know that Irish potato can store for up to 6 months so we arranged and we purchased some 50lb bags out of China through a distributor and I said to the guys, let's do a crude form of grading, we're not there yet but take out the best ones and the not so good quality ones and use 2 types, package them in 50lb bags and let us see how they look. Well, when we looked at them in the packages they looked better than the ones we import from wherever we import them from and the prices were almost similar, marginally, meaning less than double digit percentage wise in terms of cost to the consumer. But, it kept quite a few farmers active and they earned something. So I called the distributors and said to them listen, we have a lot of Irish potatoes, it's good quality stuff, it's packaged, it's graded, let's work with buying these Irish potatoes. Let's store what we can't consume and go market it to the same people you market to, the supermarkets, the hotels, whoever else. I told them a couple of other things but I can't repeat it here and they bought the Irish potatoes but we had some 200 000lbs in storage in Christiana, the potato growers association and it was last week that the final amount of that came out. What it meant was that Irish potato production last year went up by 100 and odd percent, nearly 200%, all sold, nothing wasted, decent price to the farmer, good tasting product to the consumer just introducing 3 simple steps, better growing methods, post harvest management through grading, sorting, storage and I'm saying to the guys next year we need 300% increase because we are only

supplying to 70% of the Irish potato market. I'm not talking about the fries, I'm talking about the Irish potato the primary product is imported. Next year we should grow 300% more than what we grow and do the same thing. When you buy a product that is imported, primarily in its primary form, chances are it has been grown about 6 months to a year before. It's proper post harvest management that keeps that product going.

I'll give you another example; common mangoes, we have it as Jamaican people would say to stone dog a certain time of the year, all over the place. And I said to these guys, why don't we find some collection points for this because mango is a very important base for certain sauces. It may vary in terms of the type of mango but if you can juice it and preserve it, it is used in all sorts of things to add flavour and we are in a process now where next year we hope to have a major collection point and a processing of that facility. Hot pepper is the same thing, last year we set up 16 pepper nurseries; we are breaking ground this year for 3 pepper mash facilities and those pepper mash facilities will now purchase from the farmers mash and age to create hot pepper sauce. Because my position is that we have a fine reputation in terms of our spices including peppers and a lot of time when Jamaica is placed on the bottle as Jamaican hot pepper sauce it is imported throughout the region. Why should that be? Because we have not been able to master the post harvest management of the product and that's a very important I think research area. And there are other areas we could look at, cocoa, coffee, we are now restructuring the cocoa industry with the help of the USAID because again we believe that private sector investments, we're one of 8 countries in the world that produce fine flavoured cocoa. Chances are when you eat a Belgian chocolate a very small percentage of it has Jamaican fine flavoured and those countries don't have a cocoa tree in their country because of 1 reason or the other.

I give you 1 other example ginger. Jamaican ginger is superb and I tell you why I am more convinced. We sent a sample to a particular country and they wanted to do a flavour profile on our ginger and we say ok, they asked us about a couple months ago to send them some more, we did and we asked them to share the flavour profile with us. Well, they didn't share the flavour profile, what they sent back to us was that they will purchase in the primary form all the ginger that we can produce as a country. And, I said to my colleagues, let us do our own flavour profile so we can negotiate a proper arrangement. The point is that we have very outstanding products. For one reason or the other, perhaps where we are located from the equator, I don't know but our flavours, peppers, escallion, thyme, ginger and so on. We have just not been able to be consistent in production because of lack of extension support, lack of capacity and poor post harvest management. And those for me are all important issues to consider.

Two final things, risk management for me is important, for us is important because we are subject to certain risks, hurricanes for example. As I told you earlier we have seen 8 hurricanes since 2004, 12 billion dollars damage in agricultural production, 80 billion to the country. We have Charlie, Ivan, Denis, Wilma, Dean, Gustav and it seems to me we can do a lot better in terms of managing the natural disasters that we are exposed to. For one, those disasters, talking about hurricane, come a particular time of year and a lot of our crops are 3 month, short-term crops. Farmers tend to grow with the rain because they don't have irrigation infrastructure but during that period they are most vulnerable because of the hurricanes and the storms so if we improve infrastructure we minimize the risk. My personal view is that during the hurricane season we should find a way to discourage the production of certain items, ramp up the production during the off season and store like Irish potato or anything else for the hurricane period. That way:

1. we give the soil a break during that period and we minimize the losses;
2. we would incur if we have hurricanes and storms and;
3. we take advantage of the excess capacity through the post harvest management.

Now, you can't do it with all crops obviously because you have long term crops but you have some crops too that hurricanes don't affect. As told by my colleague Marshall Hall some time when we were touring his farm just after tropical storm Gustav that listen, this banana is a great product, the problem is that 30 miles an hour wind you are dead no matter what you put in, 30 miles an hour wind and it's flat. And the question is how do we manage that process? We consume nearly 100 tons of bananas; we were exporting a certain amount we had to come out of export. Well, things like geographic diversification truth is that we have a history of storms and we must be told by our researchers and our technocrats what has been the history of storms in Jamaica, where are the geographic points that have been most affected? And therefore how does that link back into our production methods and our production strategies. If bananas are grown in south St. James where they are now are they more vulnerable if they are grown in St. Thomas. It appears so but my thing is anecdotal based on what I have seen over the few years but geographic diversification, variety diversification there are bananas that are shorter and therefore more resistant to wind damage and we are looking at a new policy that will seek to introduce some of those new varieties again as part of the risk mitigation measures and that is an important issue.

Some crops that are not going to be affected, I know you all know me as Dr. Cassava, well, hurricanes don't affect cassava, the wind blows right over it, a little flood damage and incidentally the cassava chip market over the year since my speech is about 50 million dollars so we are not doing too badly with that. There are some root crops like cassava, sweet potato, dasheen, yams, when I flew over and looked at the country after tropical storm Gustav; all the banana trees were flat, particularly in the eastern end of the island. When I reached Trelawney the yam sticks were still up, few may have fallen but yam production was still solid on the ground and you know we have a reputation with yam, Usain has ensured that. But we are now encouraging companies and some companies like Jamaica producers are doing it, to look at the value added market like dasheen chip, I don't know if you have ever tasted dasheen chip but it is quite tasty, cassava chip, sweet potato chip, well we know we have banana chip but a range of these snacks. The snack market in Jamaica is worth looking at. It is huge and 95% of it is imported whether it is potato chips or any other kind of chip. Why are we not utilizing those products that we have? Why isn't there a good sweet potato chip on the market? Sweet potato production can be ramped up over night. It is one of the most nutritious products. It is the new wave; it is considered a perfect food. Did you know that, particularly in Jamaica where lifestyle diseases such as diabetes and hypertension, sweet potato is said to be an excellent food for diabetes. Why are we not finding the solutions to those things and are offering them? Because we can produce those things and every time we over do it we get into a glut situation. So that risk management is an issue of insurance which we are working on. We have a parametric insurance scheme working on but also it's an issue of crop selection, geographic diversification, planting cycle, when we plant, post harvest management, how we store, where we store in order to get a holistic approach to improving our food sovereignty.

And finally, our trade policy which I spoke to earlier has to be examined. The position is that and I'm sure you have heard my colleague Minister Shaw speak to it a lot of times, I've spoken to it a lot of times, we have given more waivers as a country because of the strength of a lobby for cheaper foods, whether it is to particular sectors like tourism or generally and in the process we

have really marginalized our capacity to produce for ourselves and medium to longer term it has really hindered our expansion. And remember now, agriculture has a multiplier impact that perhaps is second to none based on the number of people who are there. Any marginal improvement in the lot of the farmer is going to create a bigger impact in the lot of the farm family and those who are linked to agriculture. So, from a developmental perspective you have to ensure that you have a programme that is looking at that very important variable.

What we have done this year as a government is signed of on a agricultural development fund which essentially works within WTO rules because there are some bound rates within the WTO rules that allows you to charge a particular duty level to protect or to support the sustainability of vulnerable sectors and we have traditionally not followed through on what is allowable. So what we have done is now tweak those numbers within the bound rates and ring fence a portion of those duties in a fund that is fully committed to building capacity in agriculture. You are going to get stakeholder groups, sector groups that say boy you know what you mean is that I am going to have to pay an extra rate for choice beef cuts or corn imports or whatever. But, the truth of the matter as I had said to you earlier is, many of those things are so heavily subsidized in their markets of origin. You are technically applying an additional subsidy when you waive those duties and what you have done is say this is a game but there is only one player. The local capacity is ruled out from the start. Don't bother go in the beef business because of those duties that are there.

Now what we hope to do is, to use this fund to encourage local production and to supporting local production through the building of critical capacity and I think this is a very positive development in terms of the new dispensation. It's also in keeping with a call in CARICOM which took place some months ago where I chaired the Ministers of Agriculture, for the regional governments to look at establishing a regional fund to develop capacity in agriculture for the region and I am happy that Jamaica has jumped out in front to start that process and I really hope that my colleagues in CARICOM will look at following through on that because I think given the current dispensation and context it is a powerful thing.

So ladies and gentlemen, in closing, I sort of overstayed my time I believe but I want to thank you for the opportunity to speak to you very frankly. Again I am hoping that the discussion will be more thought provoking. I was told that this function is intended to assist in defining the goals, the context and the research agenda to advance agriculture forward so I placed, I hope, a number of things on the table which I think are fertile grounds for further developments, further discussions and further research. From my perspective as Minister and at the Ministry we are very opened. Derrick will tell you that we have a wealth of information at the ministry, a lot of data and I will make it available to any researcher. Just promise me that you will come back with something that will help me to build agriculture, an applied research that can make the process good again. Thank you very much, God bless you!