Climate smart agriculture

By WILLIAM DAR on Manila Times, March 17, 2017 Business Columns

2nd of two parts

In February this year, I attended the InterDrought-V Hyderabad Conference organized by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) that was held in Hyderabad, India, where a host of issues were discussed there.

The discussions led to the conceptualization of the InterDrought-V Hyderabad document on climate smart agriculture that presents key areas of concern for taking actions in the future for climate change, including the direction for research and development (R&D), and extension.

The scientists and experts who took part in the conference agreed that because of climate change, agriculture production will decrease by 10-20 percent by 2050 while demand for food will increase by 70 percent. This scenario will definitely have significant or even huge impact on nutritional, environmental and political security on a global scale. Sorry for that bad news!

So in this column, I will discuss the salient points of the document that will help nations adopt climate-smart agriculture (CSA).

Those who took part in the conference agreed to the need for increased investments in promoting climate-smart farm practices at the national and global level with all stakeholders involved, including farmers, policy makers and the private sector. Thus a “Road Map” was conceptualized concerning adaptation and mitigation measures for CSA.

I have always believed technology will play a big role in making agriculture climate-smart, so one of the recommendations is “technology targeting” or identifying technologies that will help deal with the effects of climate change. Again, I would like to emphasize that R&D institutions in the Philippines need to speed up the dispersal of their mature technologies, especially those that address climate change issues, to farmers and even to those involved in agribusiness.

When it comes managing water and land resources, the participants in the conference agreed to “almost double” investments, but for the Philippines it even needs to be tripled. Why do I say this? Just look at how drought is so prevalent in many parts of the country during the dry season months, and how there is so much water during the rainy season.

In the area of poverty alleviation related to climactic risks, the scientists and experts who took part in the conference recommended the use of satellites, mobile phones, crowd-sourcing and cloud computing for weather forecasting and early warning systems. Whatever useful information related to climate change generated from these should eventually be linked to agro-advisories in input-output markets on a real-time basis.

The role of climate smart technologies and institutions was also emphasized during the conference, and this should translate to providing improved varieties/hybrids to farmers, putting into place crop management practices (tillage, residues, water, nutrient, machinery, among others) adapted to diversity of production systems including the local conditions farmers have to deal with. The latter means that solutions applied on a wider scale may not fit some or many local conditions, so there is a need to “localize” solutions.

This can be done, among others, by making available climate sensitive extension services as well as climate-site-specific advisory systems.

There should also be Public Private Partnership models in strengthening Big Data analysis of climate-specific management options. Innovations should also be done to risk management tools like crop insurance, using ICT and weather forecasting.

Although climate change is “bad news” generally for the agriculture sector, it also presents opportunities for farmers and agribusiness. For example, change in temperature zones, increase in rainfall and shorter crop duration can actually help optimise crop production in some areas for as long as science-based approaches are integrated.

And for areas where there are possible climactic risks, mechanisms like the establishment of seed banks for improved varieties/hybrids will be of great help. This should be made part of the improved targeting of technologies and policies that are actually the “missing link” for contingency planning /climate risk management.
Taking into account much of what I have just discussed in the previous paragraphs, there is a need to maximize synergies among interventions by also developing a farming systems (yes that’s plural) to deal with climactic risks rather than having a single approach or technology for commodities.

Among others, this should result to more informed decision making in identifying what crops to grow, which climate-smart technologies and practices to put into place, where to target future investments, and when and how the investments will be made.

Also, there is a need to prioritize climate-smart interventions that can produce multiple wins that also address simultaneously the issues of poverty and governance. Eventually, these interventions should result in inclusive agricultural growth or the farmers also reaping the rewards for increasing their production amid the challenges of climate change.

Farmers adopting CSA, however, should not be a one-way process or scientists simply telling what smallholder farmers what they must do. So there is a need for farmers to participate in the process of developing climate-smart systems that should also improve or add value to traditional agronomic practices. Alternative cropping systems should also be developed jointly by scientists and farmers that should take into account technologies like combined use of laser land levelling, zero tillage, use of improved plant varieties, precise nutrient management that should also result in savings on inputs.

From adopting CSA and cooperating with farmers, a portfolio of practices, including for livestock and agro-forestry, should be developed to take the place of single commodity- or technology-centric approach.

Looking at the bigger picture, we need to strengthen Private-Public-Producer Partnerships to conduct research in collaboration with IT and finance sectors to address Genotype x Environment x Management (GEM) for adapting to weather risks, and raising productivity and profitability in farms.

When it comes to the issue of services extension, non-linear models for technology delivery should be developed, including the tapping of businesses involved in technology. More importantly, there is a need to institutionalize new extension models to scale up CSA at the local level that will also involve villages. The women and the youth should never be left out in this process while non-government organizations can be tapped.

One of the end-results of the efforts in getting villages to adopt climate-smart farming is the rise of Climate Smart Villages (CSVs) that will also be of great help in monitoring, evaluating and learning measures to deal with the impact of weather changes. The CSVs should eventually be linked to input and output markets that should be part of the adoption of CSA.

Although it is critical that climate-smart measures should reach the local level, there is a need to establish eco-region specific platforms for innovation, communication, cross-learning and capacity development to deal with climactic risks. Such efforts should also not be confined to geographic/political boundaries.

When it comes to generating public awareness toward climate-smart agriculture, one of the best ways is to start educating children from elementary to the college level.

And to get more farmers to adopt climate change measures, there should be a policy to give the tillers of the soil to earn carbon credits for their helping conserve the environment.

While climate change is indeed a daunting issue, there are many solutions on how to make the agriculture sector both adaptive and resilient to it. It is simply a matter of getting our acts together and that includes getting the farmers to play an active role, too.

On the part of the Philippines, let me congratulate President Rodrigo Roa Duterte and the Senate for ratifying the Paris Treaty on Climate Change, which I believe will prompt the government and private sector to be more active in dealing with climate change issues, including those affecting the country's agriculture sector.