

SUGARCANE INDUSTRY ROADMAP (2011-2016)

EXECUTIVE SUMMARY

This roadmap is an updated version of the original prepared in December 2010. The basic targets remain, but with additional features to ensure sustainability. It also heavily espouses the participation of the private sector, including the investing public, to start the transformation from a single product sugar industry contributing about P70 billion to the Philippine economy, to a diversified multi-product P100 billion sugarcane industry. Sugarcane will be used to produce the major products of sugar, bioethanol and power. Efforts to produce special sugars, bioplastics, biowater, biofertilizers, and other products from sugarcane will also be vigorously pursued. All these will be done with the end view of creating a globally-competitive sugarcane industry under the reduced-tariff regime in the year 2015 and beyond.

To provide the raw materials needed for the diversified product portfolio, the Philippine sugarcane industry aims to improve productivity through increased farm yield to 75 tons cane per hectare (from 57 TC/Ha), and improved sugar recovery to 2.1 bags per ton cane (from 1.80 Lkg/TC). In addition, it will expand area planted to sugarcane from 422,384 to 465,000 hectares in Year 2015. Along this line, support industries such as farm equipment manufacturing, mill engineering services and farm management services shall be pursued to ensure achievement of the targets.

The roadmap adopts broad-ranging strategies aligned towards delivering the targets. These are: massive use of technologies to increase farm productivity and sugar yield; mill rehabilitation to improve capacity utilization; promotion of bioethanol production from sugarcane and molasses; selling electricity under power cogeneration; and development of value-added products from sugarcane. Specific programs that will be implemented are: block farming; increasing sugarcane plantation areas and increasing the number of plantation-size farms; farm inventory and baseline farm mapping; strengthening of research, development and extension services and establishment of Farm Services Providers; improvement of farm-to-mill roads; farm mechanization; irrigation development; mill support industry development; and establishment of sugarcane economic zones with the mill as nucleus.

This updated version of the roadmap takes stock of the financial requirements to achieve the targets. Investments from the government and the private sector will be the core of the roadmap, amounting to about P14.5 billion. Heavy funding support on farm-to-mill roads and irrigation needs to be pumped in by government estimated at about P8 billion. Loans and financial assistance to farm operations will take on about P5.4 billion. The special sugarcane economic zones will need about P1.0 billion. The remaining P100 million will be initial investments to start up the support services which are hoped to be organized by the private sector.

THE SUGARCANE INDUSTRY ROADMAP (2011-2016)

(Updated November 2012)

The Sugarcane Industry Roadmap is formulated to serve as guide in the identification and implementation of appropriate programs and interventions to prepare the industry for year 2015 and beyond when tariff of imported sugar will be reduced to 5%. It prescribes a multi-product sugarcane industry with sugar, bioethanol, and power as major products, and bioplastics, biowater, biofertilizer, special sugars, etc. as sources of revenue.

The sugar industry contributes about P70 billion to the Philippine economy from the production of raw and refined sugar, molasses, and bioethanol. In addition, it supports foreign currency earnings through exports of sugar under the US Sugar Quota Program, exports of sugar to other Asian countries, and exports of molasses. In this roadmap, the improved sugarcane industry will increase its contribution to P100 billion through the addition of special sugars, electricity, biowater, bioplastics and other products from sugarcane. The establishment of support industries shall likewise contribute significantly to the revenue streams of an expanded sugarcane industry.

SRA programs and interventions identified in the roadmap are condensed into a slogan - *"Gearing up Initiatives for AFTA 2015 & Beyond"*.

A. Target Outputs

1. Increase in sugarcane area from 422,384 hectares to 465,000 hectares.
2. Increase in farm productivity from 57 tons cane per hectare to 75 tons cane per hectare (57 TC/Ha to 75 TC/Ha)
3. Increase in sugar yield from 1.80 bags per ton cane to 2.1 bags per ton cane (1.80 LKg/TC to 2.1 LKg/TC)

B. Strategies

1. *Improvement of farm productivity and sugar yield*

Statistics showed that small sugarcane farms which comprised around 90% of the total sugarcane farms in the country produced an average of 50 TC/Ha compared with the big and well-managed farms which produced more than 100 TC/Ha.

Sugar yield per ton cane is dependent on mill efficiencies and cane quality. Old and dilapidated sugar mills usually has low grinding efficiencies and cane quality is influenced by good agricultural practices, timely delivery to sugar mills and weather conditions aside from the application of the right quantity of fertilizer and pest/disease infestations.

2. *Mill Rehabilitation to Improve capacity utilization of sugar mills*

Currently, capacity utilization of the country's sugar mills is around 60%. Sugar mills within the same province are competing for the supply of cane by providing some hauling subsidies to farmers just to capture a bigger supply of sugarcane.

3. *Promote the production of bioethanol from sugarcane and molasses*

The biofuels law was passed in 2007 where sugarcane and molasses were identified as major feedstocks for bioethanol fuel. The law mandates 5% bioethanol blend in gasoline starting February 2009 and 10% in 2011. The mandated requirement of bioethanol in 2011 for the 10% bioethanol mandate is around 460 million liters of bioethanol fuel. However, there are only three (3) existing bioethanol distilleries that can supply a volume of around 79 million liters. Although the law mandates that bioethanol fuel should be locally-sourced, importation is still allowed just to fill-in the supply gap.

Bioethanol production from sugarcane and molasses should be promoted to have an alternative market for sugarcane, hence, provide market flexibility for the farmers and a balance in the quantity of sugar that will be produced to have stable domestic prices of sugar. On the other hand, the use of molasses for bioethanol production adds value to molasses in a sense that it opens up a new market aside from the potable bioethanol or industrial alcohol market.

4. *Selling Electricity under Power cogeneration*

The sugar mills have long been cogenerating the power produced from bagasse for its own consumption in the processing of sugar. The potential for exporting excess power to nearby communities is very promising most especially when the renewable energy law was passed in 2008 which provides for incentives to renewable energy developers.

5. *Development of other value added products from sugarcane*

Bio-water and bio-plastics are the most promising value added products that can be derived from sugarcane. Bio-plastics is environment-friendly and can be produced from sugarcane bagasse.

In sugar processing, so much water is being extracted from sugarcane which is wasted and goes with the liquid effluents. The potential of utilizing sugarcane water into bio-water can be realized through an additional investment in a bio-water facility adjunct to sugar mills.

C. Programs and Interventions

1. Block farming (P300M)

Block farming is the banner program under the stewardship of Administrator Ma. Regina Bautista-Martin. This program espouses the operational consolidation of small farms to take advantage of plantation-scale production, thus, improving their productivities and sugar yields. Similar to the national convergence strategy, the Sugarcane Convergence Program (SCP) will involve the DA, DAR, and DENR. Operations of small farms will be consolidated into minimum “block farms” of 30-50 hectares. Ownership of each small farm is still maintained and respected, thus giving the landowners a share in the profit or earnings in using the land for sugarcane production.

Small farms (10 hectares and less) will be consolidated into block farms with an aggregate area of around 30-50 hectares, through various innovative schemes like contract growing, joint venture, partnership, profit-sharing, etc. to improve farm productivity and income of ARBs / small farmers with farms ten (10) hectares and less. Professional farm managers / operations managers will be hired to manage each block farm.

Block farms will have priority in service delivery of the MDDC, SRA, DA, DAR, PHILSURIN, PHILSUCOR, SIFI, LGUs, the sugar mills and other government financing institutions. The DAR will focus its support services to the Agrarian Reform Communities (ARCs) and will lead in the formation of block farms among Agrarian Reform Beneficiaries (ARBs). Private investors will assist the block farms, either by direct investments and/or management or service delivery. Assistance from foreign funding can also be tapped for the acquisition of farm machineries, irrigation systems, etc. DA will assist in providing infrastructure support such as farm-to-mill roads, irrigation and other logistical support in coordination with DAR and SRA. DAR and the MDDCs will monitor the block farms, while SRA oversees the whole program implementation and provide technical assistance on best practices in sugarcane farming. LAREC & LGAREC commercial farms shall also assist in providing the necessary planting materials for the block farms. Developed block farms shall serve as demo farms and model cane farms in their respective milling districts.

Another salient feature of the block farming program is the transformation of block farms into integrated farms where other livelihood options will be introduced through the convergence initiative of DAR, DENR, DA and SRA. Block farm members will be trained as entrepreneurs so that in the end they will be empowered to manage the block farm as an agribusiness enterprise.

In February 2012, the block farming program was launched in Batangas with the organization of four block farms composed of ARBOs; namely, KAMAHARI & DAMBA in Nasugbu, PRENZA in Lian and LUCBAN in Balayan.

2. Identification of expansion areas and Increase in Plantation-sized Farms (P5B)

The SRA extension personnel in coordination with the Mill District Development Committees (MDDCs) will identify potential expansion areas for bioethanol production and additional areas to augment the cane supply of underutilized sugar mills. Likewise, investors for bioethanol fuel production will be doing their own initiatives in looking for idle areas suitable for sugarcane production.

The SRA will also tap the DAR in organizing the ARBs with idle lands that will be developed into sugarcane plantations. Sugarcane is a plantation crop, and as such, optimum and efficient operations will be achieved in plantation farms, which are operated in a minimum of 30-hectares area. Statistics show that only 14% of farms in the country have areas 10 hectares in above. Thus, this roadmap aims to increase that percentage to 20% or around 100,000 hectares of the total planted area to increase total cane yield.

3. Farm inventory and Baseline farm mapping (P60M)

Accurate accounting of all sugarcane farms in the country is a very critical tool in arriving at sugar production estimates which will be the basis for SRA regulatory policies. The baseline data gathered from the farm inventory will also serve as guide for SRA in implementing the programs appropriate for a particular sugar milling district. Some SRA extension personnel will be tapped in the inventory of sugarcane farms and will be trained in GPS mapping. SRA Mill District Officers (MDOs) will update the farm inventory every crop year as one of the basis for the cropping season's sugar production estimate. Weather stations will be installed in all sugar milling districts nationwide in coordination with DA and PAG-ASA. A crop estimation system shall be put in place through the generation of GPS maps and development of information subsystems such as the national farmers registry system (NFRS) and weather station system (WSS). Outsourcing of experts for GPS mapping and development of crop estimation system will be also considered upon the availability of funds. Crop estimates shall be done every crop year by the SRA MDOs through a systematic survey protocol, in coordination with the MDDCs and sugar mills.

SRA will be implementing beginning 2012 the upgrading of its crop estimation system by employing improved strategies utilizing recent ICT equipment and methodologies in coming up with a more accurate crop estimate.

4. Research, development and extension services and Establishment of Farm Services Providers (P100M)

SRA has two experimental stations that will cater to the R,D & E needs of the sugarcane industry in coordination with the PHILSURIN which is the private sector research arm of the sugar industry. SRA-LAREC in Floridablanca, Pampanga conducts research and development projects on sugarcane nutrition, variety improvement programs, maintain propagation farms of sugarcane high-yielding varieties (HYVs) and ecological tests of developed cane varieties. LAREC will serve as the central research station for the development of organic farming and muscovado.

SRA-LGAREC in La Carlota City, Negros Occidental conducts breeding of new sugarcane varieties, maintains the germplasm bank and propagation farms of sugarcane HYVs, variety improvement programs, production of sugarcane plantlets through tissue culture, studies on soil nutrition, development of production technologies, ecological tests of developed varieties, etc.. LGAREC shall serve as the center for sugarcane breeding and will focus on the development of varieties that will surpass the performance of control varieties.

Efficiency of the commercial farms in LAREC and LGAREC shall be improved through mechanization, the application of SRA developed technologies and better farm practices. They shall showcase the SRA technologies which will serve as model farms for Luzon, Visayas and Mindanao.

SRA has extension personnel assigned in every sugarcane milling districts who provides technical / advisory services to cane farmers, collect soil samples for analysis as basis for fertilizer recommendations, gather / monitor farm data and work closely with the MDDC in extending the necessary support services in their areas of responsibility.

A planters/farmers-extensionist-researchers feedback mechanism shall be put in place by SRA R,D & E to ensure that its services caters to the needs of the farmers. Farmers' feedback is also necessary to identify the desired characteristics of the cane varieties to be developed in the SRA breeding station. The feedback mechanism shall be coupled with a marketing strategy of the SRA released varieties to ensure adoption by the farmers.

When everything is in place, an HYV nursery shall be put up in the priority milling districts in close coordination with the MDDCs.

SRA is undertaking a Human Resource capability audit as basis for the capability building program for its technical or frontline personnel in R, D & E.

Capping this initiative is the formation of private farm service providers. These are envisioned to be business entities that provide professional services as farm management, financial services, consultancy, and even tractor, trucking

and other equipment services. This should ensure higher productivity and more effective and efficient management of the farms. Investments in this endeavor shall be started by enterprising farmers and farmer groups.

5. Farm-to-Mill Roads (P3B)

This program will be implemented in close coordination with the Department of Agriculture (DA) as the main source of funding for the establishment of farm-to-mill roads (FMR). Existing farm-to-mill roads in sugarcane districts are being rehabilitated every milling season since these are dirt roads which are not passable during rainy days. Rehabilitation is usually funded by the sugar mills in partnership with the MDDCs. GPS maps of road networks are being generated in coordination with the Sugar Masterplan Foundation, Inc., PHILSURIN and the MDDCs.

SRA shall have a general policy / guidelines for the implementation of FMR projects which shall be patterned after the DA's guidelines on road development.

The sugarcane industry has been a recipient of a P500 million fund downloaded to the Office of the DA Secretary in 2012 for FMR through the AF-2025 of the COCAFMS spearheaded by Senator Kiko Pangilinan and Representative Mark Mendoza and endorsed by Secretary Proceso J. Alcala.

6. Farm mechanization and the Establishment of Farm Equipment Manufacturing Industry (P10M initial capital)

Sugarcane is a crop which needs deep and thorough plowing, hence, farm mechanization machineries such as tractors and implements are necessary to improve and optimize farm productivity. A proposal for ACEF funding will be worked out which includes counterpart funding from the private sector. DAR, through its fund for common service facility, will provide farm mechanization equipment to the ARBs' block farming program. Other financing windows for farm mechanization will also be tapped.

A solid support to farm mechanization is the establishment of a support industry which manufactures farm equipment. This must be private enterprises that could sustain and adopt to the changing needs of the farms. Investments in this endeavor can be started by farmers and their groups with share from other business groups.

7. Irrigation (P5B)

Irrigation systems installed in the country's sugarcane farms are mostly procured through private sector initiatives. The installation of small water impounding areas and shallow tube wells in sugarcane milling districts to increase the number of irrigated sugarcane farms will be worked out by SRA with the Bureau of Soils and Water Management (DA-BSWM) through the support of DA as mother agency.

The DA, through the DA-DAR-DENR Convergence Initiative has committed to install one unit of STW per block farm that is being established by SRA.

8. Establishment of Mill Support Industries (P20M initial capital)

Improvement of the mills require repair, rehabilitation and/or replacement of factory parts and equipment. Existing Philippine sugar mills source this support service from other countries like Thailand, India and even Brazil. This does not only drain the country's dollars but more importantly make the industry hostage. Time also becomes crucial. Thus, the roadmap envisions the establishment of mill support industries which will be started by a consortium of the mills themselves. The farmer groups and other interested business entities may also join this is potentially profitable endeavor.

9. Establishment of Sugarcane Special Economic Zones (P1B)

The full development of the Philippine sugarcane industry lies in its competitive edge when it comes to cost of production and economies of scale. Reduction in cost of production and the attainment of economies of scale can be achieved through the establishment of a sugarcane ecozones where an integrated sugarcane plantation and processing facilities could be installed proximate with each other to save on power, logistics and manpower costs.

This can be achieved through the passage of the Sugarcane Industry Act of 2012 and through the help of PEZA in the creation of a sugarcane special economic zone.

