

Techno Gabay Program Institutionalization: Enhancing the Role of the Local Government Units in the Delivery of Extension Services¹

Princess Alma B. Ani²
Senior Science Research Specialist
Socio-Economics Research Division
Philippine Council for Agriculture, Aquatic and
Natural Resources Research and Development
Department of Science and Technology
Los Baños, Laguna, Philippines
Email address: princessanidala@yahoo.com or princessanidala@gmail.com

INTRODUCTION

The Philippines, as mandated in the Constitution, recognizes the important role of the local government unit (LGU) in the generation and utilization of science and technology as well as in the transfer and promotion of technologies for national development. Being the close link of the farmers and rural stakeholders to technologies from research and development (R&D), the LGUs serve as crucial conduit in delivering the needed technologies to enhance the agriculture, aquatic and natural resources (AANR) sector. Tolentino (2000) as cited by Ocenar (2004) pointed out that the LGUs are in the best position to dovetail strategies of agricultural extension. Hence, there is a need for a mechanism to improve the LGUs' capacity, through the agricultural technicians (ATs), to deliver the necessary agricultural services.

In 1997, the Local Government Code (RA 7160) provided for the devolution³ of significant function and responsibilities of the national government agencies to be transferred to the LGUs. The delegated power entrusted to the LGUs include, among others, the delivery of basic services such as housing services, health and extension services. However, it was noted that the devolution of the agricultural extension services to the LGUs has left a void in the delivery of information and technology service to the farmers (PCAARRD, 2012). A number of government programs and projects were developed to beef-up the capacity of the LGUs and become a competent technology facilitators.

The Techno Gabay Program (TGP) of the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)⁴ was developed to serve as a modality

¹ Policy paper submitted to the Food and Fertilizer Technology Center (FFTC) for the project titled "Asia-Pacific Information Platform in Agricultural Policy". Policy papers, as corollary outputs of the project, describe pertinent Philippine laws and regulations on agriculture, aquatic and natural resources.

² Philippine Point Person to the FFTC Project on Asia-Pacific Information Platform in Agricultural Policy.

³ Devolution: A significant number of functions and responsibilities previously vested in the national government agencies such as the Departments of Agriculture, Environment and Natural Resources, Social Welfare and Development, Health, Trade and Industry and Public Works and Highways were devolved to LGUs. The delegation of powers essentially made LGUs responsible for the delivery of most of the basic services (e.g. housing, farming, extensions services) needed by the communities.

⁴ PCARRD was renamed to PCAARRD or the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development in 2011. This was due to the merging of the two Councils of the Department of Science and Technology (DOST)

for the delivery of information and technology and hasten their utilization. It is a platform to foster an active participation of the LGUs in the technology delivery process and promotes empowerment, self-reliance and participatory agricultural development. This paper aims to describe how the TGP serves as a technology transfer modality that support agricultural development and how policy was able to provide an enabling environment to institutionalize and mainstream TGP in the LGUs. The paper is divided into two parts. The first part describes the TGP, its components and its framework of operation while the second part discusses the policy support for TGP institutionalization and highlights some policy implications.

THE TECHNO GABAY PROGRAM (TGP)

The recognition of the LGUs' important role in the delivery of services and technologies requires a mechanism that will serve as a platform for the LGUs to link the farmers and technology-end users on the one hand and the source or technology developers on the other. The platform will provide for skills enhancement of LGUs as extension workers and fast-track the delivery, promotion and transfer of technologies. One such platform is the Techno Gabay Program which was former PCARRD's banner program for the dissemination and utilization of technology. It guides and facilitates knowledge sharing and use and learning among extension workers and farmers. As an innovation platform, TGP brings together various actors and stakeholders in knowledge generation, diffusion and utilization to improve farm productivity and income of farmers and related enterprises while providing for a sustainable environment (Burgos *et al.*, 2011).

As a framework that promotes a more effective and sustainable strategy, TGP complements the efforts of the LGUs and rural-based organizations (RBOs) through capability building in terms of information and technology services. The agricultural technicians (ATs) then are able to redefine and transform their roles as facilitators and information broker, hence, bringing the needed services and technologies to the countryside.

TGP Components

The goal of TGP is to help hasten agricultural modernization by enhancing farmers' access to information and technologies as important input for decision making and entrepreneurial activities. The program consists of four interdependent and complementary component modalities.

The TGP has its roots from two PCARRD technology transfer programs in the early 1990s: (1) the Farmers' Information and Technology Services (FITS) or the "Techno-Pinoy" Center and (2) the Farmer Scientist Bureau (FSB) or the "Magsasaka Siyentista" (MS). In 1999, under one umbrella program, the FITS was integrated with FSB, the Information, Education and Communication (IEC) and the Information and Communications Technology (ICT).

namely: (1) the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) and (2) the Philippine Council for Aquatic and Marine Research and Development (PCAMRD).

Farmers Information and Technology Services (FITS) Center

The FITS Center is a one-stop service facility that provides clients quick access to a wide variety of information and technology services. It has one or two focus commodities or products of major importance in the locality where it is located. Among the information services provided include agricultural information and technology services in various multi-media format; displays of new technologies and products; information accessed through the internet; data uploaded in the FITS Information System and information inquiry through short message service (SMS).

On the other hand, the technology services include technology trainings, technology clinics and fora; technical advisory and referrals; linking clients to agribusiness support services like input suppliers, financial institutions, technical experts, and markets; technical assistance for enterprise development and access to quality planting materials and animal stocks.

The PCAARRD (2012) indicated that the total number of FITS Centers reached 740, more than six-fold increase from the 2006 record of 116 centers. About 90% of these centers are established in LGUs. This clearly shows the significant role of the LGUs as the primary conduit to implement TGP as a technology transfer modality.

Magsasaka Siyentista (MS) or Farmer Scientist

The “Magsasaka Siyentista” (MS) or Farmer Scientists are successful farmers who are being tapped by the FITS Center to collaborate in demonstrating, experimenting and promoting technologies in agriculture, aquatic and natural resources. MS are outstanding farmers who share expertise in their respective focus commodities as well as demonstrated successful application of S&T-based and indigenous technologies and innovative practices. They are recognized by their co-farmers as initiators of innovative farm practices and active participants, facilitators and enablers of technology development and transfer processes.

The MS supports the initiatives of the TGP by: (1) serving as a resource person and providing technological services during technology trainings/clinics, seminars, field days, cross-visits, and others; (2) providing technical assistance, hands-on training and shares experimental insights to on-farm visitors and other trainees; (3) allocating a portion of his/her farm for demonstration plots/fields; (4) testing/applying technological information learned from the trainings, seminars and cross-visits attended; and (5) influencing other farmers in adopting his outstanding farm practices by sharing information, experiences, resources and ideas (TGP Information Bulletin, 2001).

PCAARRD recorded a total of 683 MS in the country, majority of whom (88%) focus on the crop sector while the remaining 12% are working on other sectors (livestock, aquatic, forestry and natural resources sectors) (PCAARRD, 2012).

Information, Education and Communication (IEC)

The IEC strategies were operationalized through packaging and provision of appropriate S&T-based information materials and conducting promotional activities. Information resources and multimedia packages of R&D institutions are developed and shared at the FITS Centers so that

extension workers and farmers can gain easy access to these knowledge sources and databases. The IECs were usually in printed form such as pamphlets, flyers, posters, book series and brochures. In selected IECs, translation using local vernacular was done for ease in understanding. Moreover, the Information Service Specialist (ISS) of the FITS Centers were provided IEC-based trainings to enhance competencies in the production of IEC materials (PCAARRD, 2012; Aquino and Ani, 2007).

Information and Communications Technology (ICT)

ICT makes possible cheap, easy, and fast access to information. It facilitates information storage, retrieval and exchange, thus, enabling the FITS Centers to provide immediate response to current problems and frequently asked questions (FAQs). Important to ICT services is a reliable and sustainable internet connectivity support (PCAARRD, 2012; Aquino and Ani, 2007).

The Techno Gabay Framework

The TGP implementation framework (Fig. 1) showcases the interaction of the four component modalities, the FITS Center, MS, IEC and ICT, to provide continuous flow of need-based information to farmers, entrepreneurs and extension workers. It also illustrates how the various clients can respond and provide feedback to influence the kind of services that will be provided to them by the system. TGP adopts participatory approaches in which program implementers serve as the frontline service providers, while PCAARRD and members of the National Agriculture, Aquatic and Natural Resources Research and Development Network (NAARRDN) serve as facilitators (Burgos *et al.*, 2011).

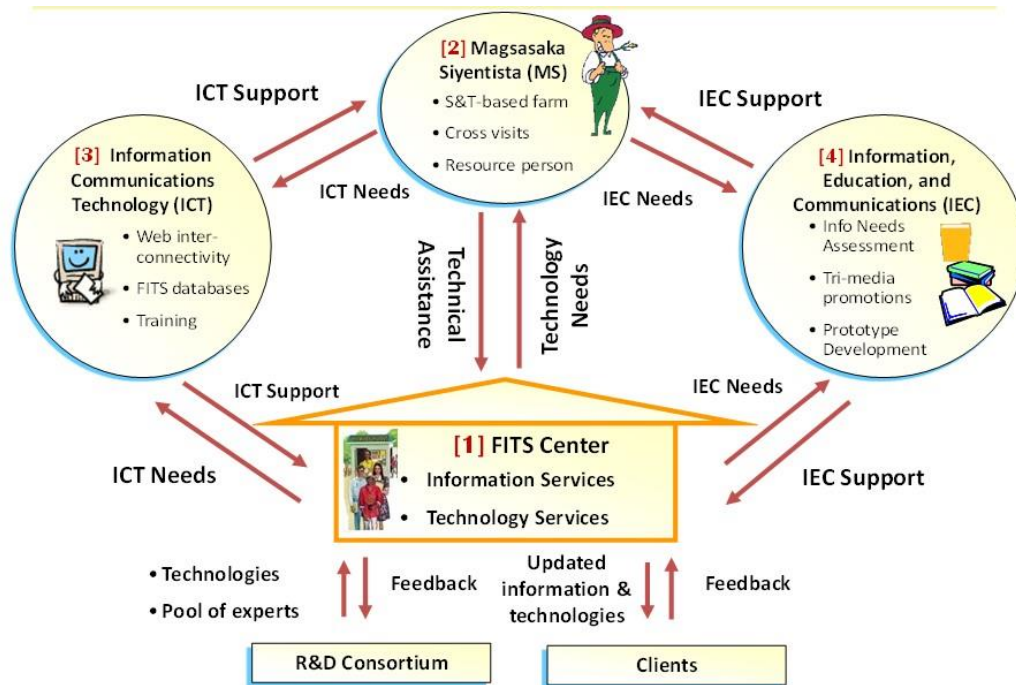


Fig. 1. The Techno Gabay Framework (Burgos *et al.*, 2011)

TGP INSTITUTIONALIZATION IN THE LGUs

The TGP as a mechanism to enhance the existing extension delivery system of the LGUs is institutionalized through Executive Order (EO) 801 otherwise known as “Encouraging the Local Government Units (LGUs) to Adopt the Techno Gabay in their Agricultural Extension Programs and the Concerned Government Agencies to Provide the Required Assistance for the Purpose”, signed by Former President Gloria Macapagal-Arroyo on May 14, 2009.

Executive Order 801 recognizes the constitutional mandate of the LGUs, as stipulated in the Local Government Code of 1991, to provide extension services specifically in terms of production of food, extension plans and budgets. Further, the Medium-Term Philippine Development Plan (MTPDP) of 2004-2010 specifies that LGUs shall exert efforts to strengthen and maximize TGP as a technology delivery modality. As indicated in the impact assessment studies of TGP (Brown, 2011), the enhancement of the extension delivery system at the LGUs especially at the municipal level took in the form of improved information and technology services which were translated into increased technical efficiency of farms and higher income for farmers. Hence, stakeholders and LGUs have signified the interest to adopt TGP.

As stipulated in Section 1 of EO 801, the policy covers all LGUs where agriculture including fisheries/aquatic and forestry as well as areas where urban agriculture and agriculture-based programs are the primary sources of livelihood.

Moreover, EO 801 provides the legal basis and defines the institutional arrangements for the

adoption of TGP as a technology transfer modality. More than encouraging the participation of the LGUs, EO 801 provides for the collaboration and convergence of efforts of government institutions and organizations such as the Department of Science and Technology (DOST) through PCAARRD and the Department of Agriculture (DA) through the Agricultural Training Institute (ATI). Other institutions involved include the private sectors as well as the stakeholders from the academe consists of the Commission on Higher Education (CHED) through the State Universities and Colleges (SUCs).

Specifically, the institutional arrangements stipulated in Section 3 of EO 801 and Section 4 of its Implementing Rules and Regulations (IRR) provide for the operational scheme between and among the key agencies concerned which include the Department of Interior and Local Government (DILG), DOST-PCAARRD, DA-ATI, the Regional Research and Development Consortia and the LGUs. Further, the IRR indicated the Organizational Structure that specifies the Steering Committee (SC) and the Technical Working Committee (TWC) to govern and administer the implementation of EO 801.

The implementation of EO 801 embodied in Section 6 of its IRR describes the duties and responsibilities of the participating agencies. The DILG's main role is to enjoin LGUs to adopt TGP and ensure that corresponding support will be accorded to the program. The LGUs' duties and responsibilities (IRR, Section 7) include provision of enabling policies such as ordinances and resolutions to adopt TGP and to allocate necessary funds and human resources to support the program; coordinate, monitor and evaluate the implementation of TGP at the provincial and municipal levels, and include TGP in the LGUs' respective development and investment plans.

DA-ATI on the other hand, primarily, shall serve as the national-level coordinating agency of TGP. It shall link its extension programs to the extension delivery modalities under TGP and other extension programs of the SUCs, LGUs and other extension service providers at the national government offices and the private sector. Other functions include providing access to relevant information system and complement human resources and logistic requirement to support the capability building of FITS Centers' staff and other extension providers. This provision laid out the mechanism how TGP will support, strengthen and complement the existing extension delivery system of the LGUs.

DOST-PCAARRD shall provide the overall direction within the TGP framework in coordination with its Regional Consortia, Partner Member Agencies (PMAs) and the DA-ATI. In addition, PCAARRD shall: (1) conduct the necessary consultations and planning with TGP implementers; (2) coordinate the conduct of trainings and provide IEC materials and ICT-based knowledge and technology packages for the efficient and effective operation of the FITS Centers; (3) link the scientific community, the researchers and the agricultural experts with the FITS Centers; and (4) conduct monitoring and evaluation of the TGP implementation at the national level.

The CHED shall enjoin the SUCs to support the LGUs in the implementation of TGP. Corollary to its functions of instruction, research and extension and production, SUCs shall provide the necessary research-based information and include TGP principles and modalities in the curricula and other research and extension programs of SUCs. This is a mechanism to ensure that technologies and information from researches and S&T-based studies are not only shelved in libraries and publications but are channelled through the LGUs and delivered to the ultimate

beneficiaries and users – the farmers and entrepreneurs.

The EO⁸⁰¹ also stipulates provisions on other institutional arrangements to provide for the participation of other government agencies such as the Department of Agrarian Reform (DAR) and the Department of Environment and Natural Resources (DENR) and non-government organizations (NGOs) in the implementation of the TGP.

Sections 8 and 9 of the IRR ensure that criteria, to serve as standards, are set in the establishment and operation of the TGP. Specifically, Section 8 provides for the minimum requirements in establishing the FITS Center. These include the requirements for the minimum office space or area needed and its strategic location for easy access of clients, the availability of reliable and sustainable connectivity or internet service provider, the ICT equipment, and the availability of data and information on agriculture, aquatic and natural resources (AANR) sector. The human resources complement is also stipulated. The center should have a FITS Manager, an Information Service Specialist (ISS) and a Technology Service Specialist (TSS). The presence and appointment of an MS is also specified. The fund allocation required for the operation of the FITS Center and the nature of services provided under the TGP are also indicated in Section 8. Meanwhile, Section 9 indicates the selection criteria in choosing the MS.

Funding support for the implementation of EO 801 shall be accorded by the LGUs to cover for the programs, physical, human resources and financial requirements. Moreover, other agencies concerned will also provide allocation in their annual budget to be used in the conduct of their duties and responsibilities stipulated in EO 801.

Lastly, since TGP is originally a banner program of PCAARRD for its R&D results utilization, EO 801 specified a transitory provision for due transfer of TGP to DA-ATI as the key agency of the program implementation. During the transitory period, the DOST-PCAARRD and the Regional Consortia shall take the lead in coordinating and implementing EO 801 at the national and regional levels. Moreover, all pertinent documents including guidelines, protocols and operating procedures of TGP shall be turned over to ATI. More importantly, to ensure that TGP is addressing its goals and objectives as well as remaining relevant, its impact shall be assessed every five years.

SUMMARY AND POLICY IMPLICATIONS

Crucial to the maximization of benefits from developed technologies is an effective extension delivery system. This entails identifying key strategies and agencies to support the efficient and effective transfer of information and technologies. The Techno Gabay Program is a necessary enhancement of the extension delivery system that supplements and complements efforts of technology development in the country. The program is a recognition of the need to establish a bridge between the developers of technology and the target beneficiaries if maximum benefits from these innovations are to be realized. Through Executive Order 801 that institutionalizes TGP at the local government units (LGUs), it is envisioned that science-based solutions, information and technologies from researches will be effectively delivered to farmers and entrepreneurs to improve productivity and income levels. Since LGUs, through the agricultural technicians (ATs), are considered the closest link of the farmers to access and tap technologies, the adoption of TGP will enhance and strengthen the capacity of the ATs as technology and information facilitators.

The Executive Order 801 recognizes and harnesses the achievement and success of TGP as an effective technology transfer modality in improving the agriculture, aquatic and natural resources sector. This can be sustained through the convergence of extension efforts with other agencies with the Agricultural Technology Institute as the key agency in coordinating the implementation of TGP and the LGUs as the frontline service providers. Through this, LGUs will be empowered and serve as key drivers of agricultural development in the countryside.

REFERENCES

- Aquino, A.P. and Ani, P.A.B. 2007. Terminal Report. Performance Evaluation of the PCARRD Techno Gabay Program in Caraga. PCARRD, Los Baños, Laguna. 69 p.
- Aquino, A.P. and Ani, P.A.B. 2007. Terminal Report. Performance Evaluation and Impact Assessment of the PCARRD Techno Gabay Program in Region 7. PCARRD, Los Baños, Laguna. 69 p.
- Brown, E.O. 2011. Impact Assessment of the Techno Gabay Program in Selected Municipalities. In: Aquino, A.P., Brown, E.O. and Cardenas, D.C. (eds). The farm-level impact of the Techno Gabay Program: Assessment, evidences, and implications. PCARRD, Los Baños, Laguna. 201 p. (PCARRD Book Series No. 182/2011)
- Burgos, B.M., Argañosa, A.S., Abella, T.A. and Bayabos, L.G. 2011. The Techno Gabay Program: History, Milestones, and Direction. In: Aquino, A.P., Brown, E.O. and Cardenas, D.C. (eds). The farm-level impact of the Techno Gabay Program: Assessment, evidences, and implications. PCARRD, Los Baños, Laguna. 201p. (PCARRD Book Series No. 182/2011)
- Executive Order 801: Encouraging Local Government Units (LGUs) to Adopt the Techno Gabay in their Agricultural Extension Programs and the Concerned Government Agencies to Provide the Required Assistance for the Purpose. 2009. Office of the President, Malacañang, Manila Philippines. Retrieved in January 2017, from <http://www.gov.ph/2009/05/14/executive-order-no-801-s-2009/>
- Implementing Rules and Regulations Pursuant to Executive Order 801: Encouraging Local Government Units (LGUs) to Adopt the Techno Gabay in their Agricultural Extension Programs and the Concerned Government Agencies to Provide the Required Assistance for the Purpose. 2011. Joint Administrative Order of the Department of Science and Technology, Department of Agriculture, Department of Interior and Local Government and Commission of Higher Education. Retrieved in March 2017, from <http://ati.da.gov.ph/caraga/sites/default/files/IRR%20EO%20801.pdf>
- Ocenar, R.D., Brillantes, A.B. Jr., Cuthbertson, S. and Tumanut, M.A. 2004. Improving Delivery of Extension Services in the Philippines: Lessons Learned and Future Directions. Philippine Journal of Public Administration, Vol. XLVIII No.3. Retrieved in July 2016, from http://lynchlibrary.pssc.org.ph:8081/bitstream/handle/0/1598/07_Improving%20the%20Delivery%20of%20Extension%20Services%20in%20the%20Philippines.pdf?sequence=1
- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD). 2012. Draft Report. Enhancing FITS National Terminal Report. PCAARRD, Los Baños, Laguna.

Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). 2005. Terminal Report. Impact assessment of the TGP in selected municipalities. PCARRD, Los Baños, Laguna.

Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). 2001. Techno Gabay Program, Information Bulletin No. 218/2001. PCARRD, Los Baños, Laguna.

Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). 2000. Performance Evaluation of the Farmers' Information and Technology Services (FITS): Integrated Reports. PCARRD, Los Baños, Laguna.

Date submitted: April 9, 2017

Reviewed, edited and uploaded: May 4, 2017