

## **NETWORKING SERICULTURE INDUSTRY IN THE PHILIPPINES**

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### **ABSTRACT**

The end product of networking is to transform the plan to a market led industrialized approach through the utilization of innovation, continuous conduct of research activities and disseminating information. The networking framework of development of the sericulture industry in the Philippines was organized through the development of its legal basis which is the Republic Act 7359(1992) known as the Sericulture Research and Development Institute (SRDI). It is a national center tasked to educate sericulturists, conduct research and extend technologies. Its general mission is to develop sericulture as an agro-based industry in the country.

Sericulture is the art and science of producing silk, a natural fiber. For over centuries, it reigned as the undisputed “Queen of the Textile Fibers” due to its unique properties related to garment and industrial technology.

The methodology of networking system of the industry for research covers the three research, development and extension programs; 1) mulberry; 2) silkworm; 3) post-cocoon covering various sectors and disciplines.

Results reveal that the institute conducted 24 studies; extended 15 technologies and allied services; and mobilized 40 network scheme. The industry is contributing an increasing trend in a livelihood development pattern, employment pattern to family and non-family members, production and marketing performance that leads to an increased volume of cocoons and silk fabrics.

The operationalization of the research, development and extension (RDE) networking on sericulture are observed within and among the research, change and client system.

The networking strategy paved the way to the attainment of the plan to market and a framework of marketing the sericulture industry to its various stakeholders. It also featured the process of combined efforts, resources and enterprise of various local and foreign agencies.

Keywords: Sericulture, Networking, Silk Industry

## INTRODUCTION

Republic Act No. 7359 (1992) established the Sericulture Research and Development Institute based at the Don Mariano Marcos Memorial State University (DMMMSU). It is mandated to educate and train sericulturists, conduct researches and extend technologies. It has the powers and functions of networking the offering of degree and non-degree programs, production of certified mulberry plants and silkworms and cocoon processing and product development. A typical networking scheme is adopted through its Board of Regents and the Advisory Board. The Institute is governed by Board of Regents as the highest policy making body and a working group known as the Advisory Board composed of the Secretary of the Department of Agriculture as Chairperson, the vice chair is DMMMSU and the members are the Secretary of the Department of Trade and Industry (DTI), Executive Director of the Philippine Council for Agriculture, Forestry, Natural Resources Research and Development (PCARRD), the Administrator of the Fiber Industry and Development Authority (FIDA), the Director of the Philippine Textile and Research Institute (PTRI), the Director of the Sericulture Research and Development Institute (SRDI) and a representative from a national federated private associations or cooperative or producers of mulberry and silk cocoon or a representative from a national federated silk cloth processing and manufacturing industry sector.

### SILK INDUSTRY NETWORK MECHANISM SCHEME

#### 1. Research and Extension Network

The industry's networking system for RDE is designed in the interface model among the research, change and client system (Figure 1). The model presents the interconnectivity of the functional relationship as a system in order to speed-up diffusion process from TG to TC; bridge the gap between the research, change and client system in its desire to design a comprehensive model of transferring silk technologies.

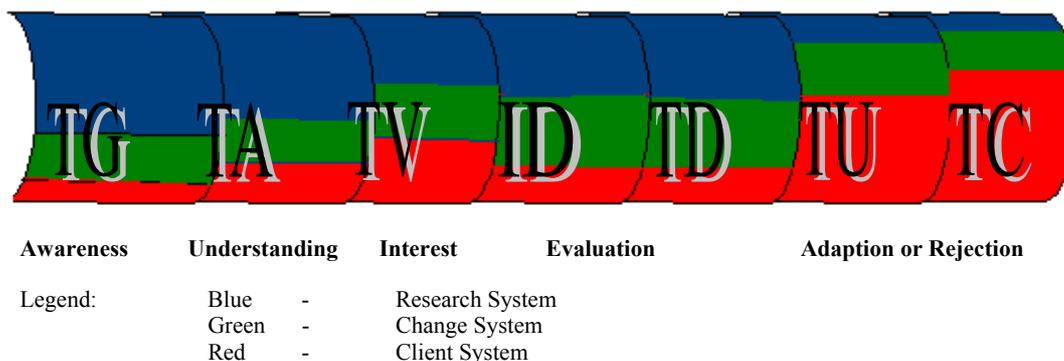


Figure 1. Participatory technology transfer approach as a model of interface between and among the research, change, client system and the R&D continuum and the integration of the stages of diffusion process.

#### 2. RDE Program Linkage and Modalities of the Industry

The RDE programs of SRDI are implemented through two divisions, namely: (1) Research and Development Division composed of five (5) units (Crop Improvement; Crop Protection; Crop

Production; Cocoon Processing; Product Development; and Engineering and Socio-Economics) and (2) Training and Technical Services Division composed of Training-Publication, Technical Services, Technology Transfer/Piloting/Utilization, Technology Commercialization and Product Evaluation.

In accordance with its national mandate, the research and extension linkage as to the type of research and extension activity levels are presented in Figure 2.

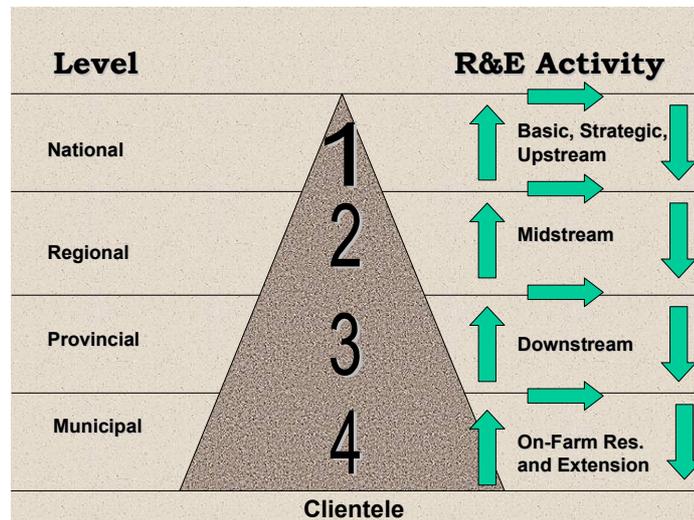


Figure 2. The R&E pyramid.

To date, the Institute generated research along Mulberry Genetic and Improvement; Silkworm Genetics and Improvement, Mulberry Crop Production and Management, Farming Systems, Technology Verification, Seri-Crop Protection on Mulberry and Silkworm, Cocoon Processing, Product Development and Engineering, and Socio-Economics. The technology extended are from the continuing education, technology transfer, enterprise development, field operations services and technical assistance to publications.

The R&E projects covers the following regions: (a) Cordillera Administrative Region (CAR) - Abra, Benguet, Ifugao, Mountain Province and Kalinga; (b) Region I - La Union, Ilocos Sur, Ilocos Norte and Pangasinan; (c) Region II - Cagayan, Isabela and Nueva Vizcaya; (d) Region III - Batangas, Cavite, Quezon, Laguna, Mindoro Occidental, Mindoro Oriental, Romblon, Aurora, Rizal and Palawan; (e) Region VI - Iloilo, Capiz, Negros Occidental and Aklan; (f) Region IX - Basilan, Zamboanga del Sur and Zamboanga del Norte; (g) Region X - Bukidnon, Camiguin and Misamis Oriental; (h) Region XI - Davao del Norte, Davao Oriental, Davao del Sur, Saranggani and South Cotabato; and (i) Region XII - Lanao del Norte, Lanao del Sur, North Cotabato, Sultan Kudarat. There are only four (4) regions not engaged in sericulture namely: Regions V, VII, VIII and NCR.

The sites contributed to the increase of livelihood development patterns and employment pattern to family and non-family members.

### 3. Production and Marketing Networking

As a result of the networking activities, the area planted to mulberry productions, the production of dried cocoons and the export earnings from silk and silk products are shown in Table 1. The table also shows the need to expand the industry as reflected in the import of silk and silk products.

Table 1. Productive, export and import data (1992-2001)

<b>Classification</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Area planted to mulberry (ha)	397	557	598	594	308	288	307	282	383	338
Production of Dried Cocoons (000kg)	5,240	1,910	2,199	2,975	2,540	1,917	2,509	4,966	5,411	6,773
Export Earnings from Silk and Silk Products (000) (in F.O.B. US\$)	106	879	1,084	1,317	1,504	1,106	1,313	1,305	1,079	656
Import of Silk and Silk Products (000) (in F.O.B. US\$)	1,750	1,871	2,063	2,152	1,582	1,571	1,303	1,224	1,438	3,136

Marketing the silk and silk products as exports of silkworm cocoons and other silk products shown in Table 2.

Table 2. Export marketing data (1992- 2001)

<b>Product</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Silkworm Cocoons (000kg)										
▪ Japan	-	-	-	-	1.00	-	-	-	-	-
▪ South Korea	0.20	-	-	-	-	-	-	-	-	-
▪ Hongkong	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0.20</b>	-	-	-	<b>1.00</b>	-	-	-	-	-
Raw Silk										
▪ Greece	-	-	-	-	-	0.50	-	-	-	-
▪ Japan	-	2.00	-	-	-	-	-	-	-	-
▪ South Korea	2.00	0.50	-	-	-	-	-	-	-	-
▪ Sri Lanka	0.80	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2.80</b>	<b>2.50</b>	-	-	-	<b>0.50</b>	-	-	-	-
Silk Wastes										
▪ South Korea	0.40	0.30	-	0.40	-	0.30	-	-	-	-
<b>Total</b>	<b>0.40</b>	<b>0.30</b>	-	<b>0.40</b>	-	<b>0.30</b>	-	-	-	-
Silk Yarn										
▪ South Korea	-	0.20	-	-	-	-	-	-	-	3.00
▪ Hongkong	-	-	-	-	-	0.002	-	1.00	-	-
▪ Canada	-	-	-	-	-	-	-	-	1.40	-
<b>Total</b>	-	<b>0.20</b>	-	-	-	<b>0.002</b>	-	<b>1.00</b>	<b>1.40</b>	<b>3.00</b>

continuation of Table 2.

Product	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Silk Fabrics (000 square meters)										
▪ Australia	-	-	-	-	-	-	-	0.06	1.00	0.03
▪ Bahrain	-	-	-	-	-	-	-	-	0.09	5.00
▪ Canada	-	-	-	-	-	-	-	-	0.06	-
▪ Belgium	-	-	-	-	-	0.30	-	-	-	0.10
▪ China	-	-	-	-	15.00	-	-	-	-	-
▪ France	-	-	-	-	-	0.30	4.00	7.00	10.00	7.00
▪ Hongkong	-	-	-	-	-	8.00	-	0.05	0.30	0.20
▪ Indonesia	-	-	-	-	-	0.02	-	-	-	-
▪ Italy	-	-	0.40	-	-	-	1.00	0.50	0.30	0.50
▪ Japan	6.00	167.0	320.0	197.0	126.0	85.00	53.00	49.00	11.00	22.00
▪ Lebanon	-	-	-	-	10.00	-	2.00	1.00	2.00	0.30
▪ Micronesia	-	-	-	-	-	1.00	-	-	-	-
▪ Monaco	-	-	-	-	-	-	-	0.09	-	-
▪ Pacific Trust Territory	-	0.004	0.30	-	-	-	-	-	-	0.30
▪ Singapore	-	-	-	78.00	41.00	39.00	46.00	8.00	16.00	0.10
▪ South Korea	-	-	-	-	0.20	0.30	0.20	0.30	1.00	0.20
▪ Spain	-	-	-	-	-	0.10	0.30	2.00	2.00	2.00
▪ Taiwan	-	-	2.00	-	-	-	-	-	0.60	-
▪ United Arab Emirates	-	-	-	-	-	0.05	-	0.40	0.06	-
▪ United Kingdom	-	-	-	-	-	0.60	2.00	4.00	3.00	3.00
▪ United States	0.50	1.00	0.40	0.80	2.00	-	1.00	1.00	1.00	2.00
▪ Vietnam	-	-	-	-	-	-	-	4.00	-	-
Total	6.50	168.004	323.1	275.8	194.2	134.67	109.5	77.4	48.41	42.73

#### 4. Network Institutions

The industry maintains foreign collaboration: Food and Agriculture Organization (FAO), Canada International Development Program (CIDA), United Nations Development Program (UNDP), Korean International Cooperation Agency (KOICA) in providing counterpart financing for human resource development and research projects. Local partners are Fiber Industry Development Authority (FIDA), Philippine Textile Research Institute (PTRI), Department of Science and Technology (DOST), State Universities and Colleges (SUCs), Local Government Units (LGUs), Cotton Development Authority (CODA), Non Governmental Organizations (NGOs) and other stakeholders. The areas of collaboration are further shown in Table 3.

Table 3. Network agencies and areas of collaboration

<b>Agency</b>	<b>R&amp;E Process</b>	<b>Areas of Collaboration</b>
DOST	R&E	Financial support and legislation
FIDA	R&E	Trade Regulation
PTRI	R&E	Highbreed Silkworm Eggs
DA	R&E	Financial Support, Legislation and Downstream
SUC	R&E	Midstream and Down Stream Research Manpower and Facilities
CODA	R&E	Cotton and Silk Blending
LGUs	R&E	On Farm Research, Techno Demo and Technology Utilization
NGOs	E	Cocoon Production and Other Silk Products
SRDI	IREP	Trade Reputation, Legislation, National Guidelines

### CONCLUSION

After ten years of service of the silk industry to the Filipino people, the social and economic benefits are not yet truly evident in terms of its contribution to the gross national product. The industry is little by little pushing developmental efforts towards institutionalizing its policies and guidelines, implementing its programs, projects and activities in order to reach out the masses and maximize the natural resource of the country.

Along with the networking system, still there are a lot of things to work on in setting a strong organizational structure, mechanics of planning, implementation and evaluation of the collective support of other government and non-government agencies to fully establish the industry. To all the Filipino people – this industry is for you, to transform you like the sericulture networking way.

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