

A Study on The Role and Development of Dairy Cooperatives in Hanoi and Hochiminh City : a case study of Phudong and Tanxuan Dairy Cooperatives

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**A Study on The Role and Development of Dairy Cooperatives
in Hanoi and Hochiminh City
–A case study of Phudong and Tanxuan
Dairy Cooperatives–**

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The ineffective operation of hundreds of the collective agricultural cooperatives in the Socialist Republic of Vietnam in the end of 1980s and early 1990s led to the establishment of many new style ones after the new cooperative law enacted in 1997, nearly one century later than the Industrial Cooperative Law of Japan (1900) (Ogura 1979). The cooperation is very helpful and very important for every small producer, especially for farmer, who is fragile in the market economy, where most individual producers and consumers are price-takers. In order to strengthen and further promote cooperative activities, the specific researches into the existing agricultural cooperatives in general and dairy cooperatives in particular are necessary.

This study describes operation of Phudong Dairy Cooperative in Gialam, Hanoi and Tanxuan Dairy Cooperative in Hocmon, Hochiminh City, using a tool of cost-benefit analysis, 1) to make better understanding about the existing dairy cooperatives in Hanoi and Hochiminh City in terms of establishment process, organization, business activities, efficiency and etc, 2) to analyze cooperative's role for dairy production in the study areas, 3) to highlight pros and cons of dairy cooperatives, and 4) to make possible recommendations to improve dairy cooperatives in Hanoi and HCM city.

The study shows the dairy cooperatives are at so small scale and so poor activities that they can not attain the advantages of both "economy of scale" and "economy of scope". Through analyzing the reasons of the above problems, the study suggests some recommendations to improve cooperative's operation in the study areas.

INTRODUCTION

In the developed capitalist countries such as U.S.A, Australia and Japan, agricultural cooperatives have played an important role in supporting farmers on production and marketing farm products. In Japan, the first modern cooperatives were the sales unions established to facilitate the community trade. Between the late 1870s and the late 1890s, silk and tea producers established cooperatives in Gunma and Shizuoka Prefectures. Japanese Government, soon realizing the need for a formal mechanism to promote cooperative development, enacted the Industrial Cooperative Law in 1900. To overcome the crisis in 1930, cooperative campaigned with Japanese government support to establish a

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cooperative in every town and village in Japan. Such efforts make possible a quick recovery and rapid progress (IDACA, 2001). Although Japan has developed into one of the world's most dynamic economic powers, it is still needed to maintain agricultural sector and agricultural cooperative was and will be a vital pillar restructuring itself to guide farmers in farm management. In the case of the Socialist Republic of Vietnam, needless to say, agricultural cooperative is more crucially necessary for improvement and development of agricultural production. However, modern cooperative movement has just appeared and the roles of cooperative in the socialist countries are still gloomy.

In Vietnam, the agricultural cooperatives, majority was old style, were also established in each commune. These cooperatives are responsible for mainly rice production and for all other general activities within commune. Recently, because of the economic restructuring leading to diversity of production, many other kinds of cooperatives under new cooperative law has been formed in order to strengthen and facilitate the new occupations. Dairy cooperatives or dairy associations are such organizations established to help farmers in production and development of dairy sectors. Nevertheless, dairy cooperatives or associations have not been popular. Studies on agricultural cooperatives, in general, and dairy cooperatives, in particular, are always required to make a good foundation to promote establishment and development of cooperatives.

With limited time and fund, this study will concentrate on two dairy cooperatives representing Hanoi and HCM city. Those are Phudong dairy cooperative (PDC) and Tanxuan dairy cooperative (TDC).

Objective of study

This study expects a general objective of how to strengthen multiple-purpose dairy cooperatives in short run and single-purpose dairy cooperative in the long run in Vietnam. Some specific objectives are to:

1. Better understand about the existing dairy cooperatives in Hanoi and Hochiminh City in terms of establishment process, organization, business activities and etc.
2. Analyze cooperative's role for dairy production in the study areas,
3. Highlight pros and cons of dairy cooperatives,
4. Make possible recommendations to improve dairy cooperatives in Hanoi and HCM city.

Methodology

Case study method is used in this paper. All objectives will be achieved basing on analyzing data of two cooperatives collected during the field trip in August 2002 and January 2003: Phudong dairy cooperative and Tanxuan cooperative. All the documents of two dairy cooperatives were examined through interviewing these cooperative directors, their staff and other concerning people. Only proper data will be used. Cost-benefit analysis is applied as a tool to show the efficiencies of cooperative operation.

Roles of dairy cooperatives in the study areas

Before June 1998, about 65–70% fresh milk produced by farmers in the suburb of Hanoi was sold to middlemen, the only way to market their milk if they were unable to deliver their milk by themselves to the consumption places. With this mechanism, dairy

farmers got a low price and sometimes they suffered the price pressure from middlemen. Fortunately, soon after that several raw milk receiving stations were installed with chilling tanks sponsored by Governments of Vietnam and Belgium. Phudong Dairy Cooperative (PDC) was established in August 1998. PDC is an entity, on behalf of the commune, which receives all the financial supports and technical assistances relating to dairy production and development from other national and international organizations. PDC has cooperated with Vietnamese-Belgium project (VBP) staff to help Phudong dairy farmers' accessing to capital, semen, cow rearing know-how, and breeding techniques through extension programs. By supporting inputs and ensuring raw milk outlet, PDC and VBP has facilitated and encouraged farmers to be involved in and expand dairy production.

The private collectors use the same trading, quality checking, pricing and payment methods with PDC. The private collectors try to offer their dairy farmers rights and benefits at least equal to those of PDC. Accidentally, PDC plays a central role to stabilize raw milk prices. An active dairy cooperative, which is effectively operated, will bring dairy farmers a possible highest payment by bargaining with factories about factory gate price, decreasing total cost of milk marketing, and by expanding other business services. By contrast, all other private collectors have no incentives to increase raw milk price paid to farmers if that price paid by PDC is equal or lower.

Tanxuan dairy cooperative was established in the same year with PDC. Up to now 41 dairy farmers have been participated in the cooperative. TDC owns VND 7,250,000 from its members and borrows VND 160,000,000 from banks and People's Credit fund. At present 81 dairy farmers are using credits through TDC. TDC is also an agent to transfer new techniques to dairy farmers and to consult for them about barn building, cow buying and feeding. TDC has failed to do other necessity services such as milk procurement, input supplying and veterinary service.

By-law of Dairy Cooperatives

Like other new style cooperatives, PDC and TDC were established by dairy farmers who have common needs and interests, and contribute voluntarily capital or labor in accordance with the provisions of the law (NASRV 1996) to promote strength of collective and each member for the purpose of mutual assisting in ever more effective accomplishment of manufacturing, business, and service activities. In general, the cooperative principles are voluntary and open membership; democratic control, limited interest on credit; equitable division of surplus; training of member; and cooperation among cooperatives.

According to the Phudong cooperative by-law, the main activities of the cooperative are as follow:

- fresh milk procurement and selling
- feed supplying and veterinary services
- milk processing and marketing of milk products
- producing and processing feed for cow and poultry and other domestic animals.

General meeting of dairy cooperatives are hold once every year. The management committees are responsible for informing members about content and schedule of the meeting 10 days earlier. The general meeting shall discuss and decide the following things:

1. Report on output of annual manufacturing, business and services activities of the cooperatives, report on operation of the management committee and audit and control committee;
2. Report in public on finance-accounting, plan of surplus distribution as well as dealing with losses;
3. Policy on manufacturing, business and service; plan on operation and raising funds of cooperative for the coming year;
4. Increase or reduction of the share capital; setting up funds of the cooperative;
5. Election, removal of the cooperative's manager; election, additional election or removal of other members of the management committee and audit and control committee;
6. Approval of admission of new members as well as withdrawal of members from the cooperative, decision on expulsion of members;
7. Wages and bonus for whom working for cooperative.
8. Amendment of the by-laws and external rules of the cooperative;
9. Merger, division and dissolution of the cooperative;
10. Other issues as requested by the management committee, audit and control committee or by at least 1/3 of all the members.

There are five to seven members in the management committee elected once every three years. Of whom, cooperative director (picture 1, 2), deputy director and controller are directly elected by members in the general meeting. Only cooperative members are able to become management committee members. Accountant and treasurer are selected by management committee. They have to be cooperative members and have no family relationship with the management committee.

Working capital of the dairy cooperatives consist of contributions of cooperative's members, capital borrowed from banks or other sources and capital funded by national and international organizations. Operating capital of the cooperatives is formed by member's shares. Each member of Phudong Cooperative is required to contribute at least 300,000 VND (USD 1 = VND 15000) within 12 months. Total contribution of one member is not allowed to be higher than 30% of total capital contributed. For PDC in August 2002, there were 10 members contributing their full share, other 48 members have contributed half share, equivalent to VND 150,000. So, total share of Phudong cooperative members have been VND 10,200,000. The share of TDC is higher than that of PDC, VND 500,000 per member. However, total shares of TDC are 7,250,000 at present, less than PDC.

According to the most recent decision of PDC on surplus distribution, 63% of the total in gross income will be distributed to director, deputy director, accountant, treasurer and controller with proportions of 1; 0.8; 0.8; 0.8 and 0.3 respectively. The remaining 37% will be used for setting up funds of the cooperative such as development fund, spare fund and welfare fund. In TDC only director and accountant get a payment of VND 300,000 per month.

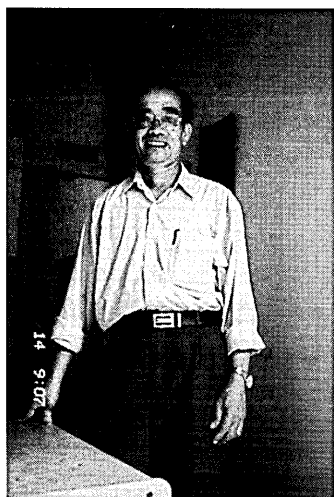
Compared to non-member, TDC members are given higher priority for borrowing money through cooperative and for training in the extension program organized by cooperative. Different from TDC, the members of PDC are divided a part of surplus from PDC's business activities in proportion to their share. They are able to rent land of PDC

for growing grass. The members also get benefit if PDC receives external supports and assistances from the programs for local dairy development. However, all of these benefits were so small and conflicts among members or between member and management committee has happened because of the unfair allocation. In order to compete with the PDC and other private collectors to attract more dairy farmers, each private collector has implemented some favorable treatments to their customers, similar with PDC, such as visiting farmers when they are sick, having funeral or wedding, and giving bonus to dairy farmers depending on their milk volume. In addition, private collectors are willing to lend capital to dairy farmers at any time with simple procedures and the same interest rate as other sources.

The size of Dairy Cooperatives

According to the incumbent director of PDC, total registered members are 92, making up 20% (92/460) of total dairy HH in August 2002. After contributing the whole share or a half of the share, the registered members will become the official members. As shown in the table 1, the official members of PDC were only 18 in 1998. It was nearly triple in the next year. Since the year 2000, however, the new incorporated members have increased at a very modest rate of 4 to 9% per year. The figures reflect a fact that PDC is not an attractive organization for dairy farmers to join. It is more boring to see the number of dairy HHs selling milk to PDC, only 30 cases in June 2002, far less than the number of the official dairy members. The reasons for this will be explained in the next sections.

At the beginning, total members of TDC was 21, accounting for 10.5% of total number of dairy households. This figure has been increasing year by year, from 25 in 1999 to 41 in 2002. Corresponding percentage has also increased from 11.4% to 15.1%, respectively. Even though it is a weak potential, this positive trend shows a good signal for TDC to become a big cooperative if TDC can install a milk receiving station and use more policies attracting dairy farmers to join.



Picture 1. Hoàng Trọng Thuýn–PDC Director



Picture 2. Nguyễn Văn Lơ–TDC Director

Table 1. Size of dairy cooperatives

Items	Unit	1998	1999	2000	2001	2002
Total registered members of PDC	Pers.					92
Total official members of PDC	pers.	18	48	56	58	63
Dairy farming members	pers.	16	46	54	56	61
Dairy HH in Phudong	HH		188	280	419	460
Percentage of DHH being CM.	%		0.24	0.19	0.13	0.13
Number of HH selling milk to PDC						30
Total official members of TDC	Pers.	21	25	30	36	41
Dairy farming members	Pers.	21	25	30	36	41
Dairy HH in Tanxuan	Pers.	200	219	240	260	272
Percentage of DHH being CM.	%	10.5	11.4	12.5	13.8	15.1

Source: survey 2002–2003

In 1998, VBP helped Phudong commune to set up a network for collecting raw milk. As a result, three 500 kg– tanks were installed in two different places within the commune. After that, VBP has installed one more tank at the collecting station of PDC. All these 4 tanks belong to PDC's ownership. However, at present, PDC is using only 3 tanks (table 2); the other is used for rent. There is no model testing machine to analyze the milk quality not only in PDC but also in private receiving stations. Firstly, raw milk is examined by perceptibility for color, temperature and can or bucket's material and sanitary. Nextly, they use 70°–alcohol to check whether milk is precipitated or not. Finally, specific gravity of raw milk is measured by a simple tool. PDC does not accept the raw milk which is precipitated or has specific gravity below 1.0256.

Table 2. Assets of milk receiving stations in Phudong

Items	PDC station	Station II	Station III	Station IV
Total number of tanks (unit)	4	2	2	1
Tanks from V–B Project	3			0
No. of tanks in use	3	3	3	1
Total capacity (kg/day)	1500	2000	2000	750
No. of van		1		
Total cash (Mill. VND)	10.2	na	na	na

Source: survey 2002–2003 (na=no available information)

Dairy cooperatives' activities

Procurement of raw milk

The main channel for marketing raw milk in Phudong is through PDC and 3 other private receiving stations (figure 1). Farmers milk by themselves and then deliver to one of 4 milk receiving stations. All four stations use the same method for milk quality checking and the same payment method (picture 7). However, price and services of PDC are considered as standards for station II and station III to follow. Before establishment of station IV, it does not matter whether farmers sell their milk to PDC or to station II or III

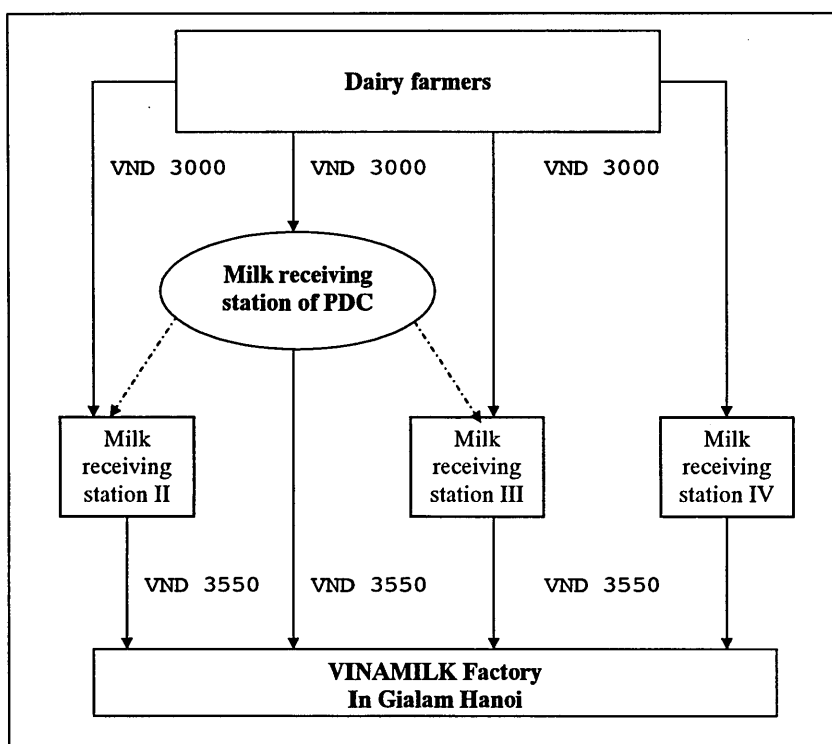


Fig. 1. Main channel for marketing raw milk in Phudong-Hanoi

(pictures 3, 4, 5). That is because PDC's director has family relationships with collector II and collector III. PDC has no incentives to compete with the other two stations. This explains why total amount of milk procurement through PDC's station was 142.329 tones in 2001, decreasing 3 tones in comparison with previous year 2000. Corresponding market shares decreased from 15.77% in 2000 to 11.17% in 2001. While market shares of station II and station III remarkably increased from 40.57% to 41.38% and from 43.66% to 47.45%, respectively (table 3).

Station IV (picture 6) was installed in March 2002 and started to collect raw milk after that. To attract dairy farmers selling milk to his station, the collector of station IV has been using encouragements such as lending capital to dairy farmers and giving 50 packages of mineral to each cow at calving. Even though it has run for 8 months, its market share is about 19.69% in the end of 2002, nearly double than that of PDC. This big difference reflected the fact that PDC was a very weak cooperative. With the operation of station IV, PDC as well as station II and station III has been facing a competition. The positive competition will help improve procurement services and stabilize raw milk price at farm gate. It also means that the gloomy role of PDC will become worse if PDC's managers do not renew and expand its activities.



Picture 3. PDC station



Picture 4. Station II in Phudong Hanoi



Picture 5. Station III



Picture 6. Station IV



Pictures 7. Checking and measuring milk at PDC



Pictures 8. PDC delivering milk to Vinamilk

Table 3 shows the situation of milk marketing of PDC in comparison with three other private collectors. Total milk quantity marketed by PDC has increased from 145,455 kg in 2000 to 171,812 kg in 2002. However, its market share has always been smallest and decreasing to 11.43% in 2002 from 15.77% in 2000. The presence of station IV has forced other remainder in the competition that better serve dairy farmers. Table 4.3 also shows the lowest average price received by PDC, at VND 3379 per kg. This disadvantage, of course, reduced marginal benefit of marketing milk of PDC compared to private collec-

Table 3. Milk marketing in Phudong in recent years

Items	PDC Station	Station II	Station III	Station IV	Total
Raw milk marketed in 2000 (kg)	145,455	374,283	402,794		922,532
Market share	15.77%	40.57%	43.66%		100%
Value (Mill. VND)	507.76	1,314.86	1,425.09		3,247.70
Average price (VND/kg)	3,491	3,513	3,538		
Raw milk marketed in 2001 (kg)	142,329	527,377	604,618		1,274,323
Market share	11.17%	41.38%	47.45%		100%
Value (mill. VND)	495.16	1,777.26	2,118.58		4,391.00
Average price (VND/kg)	3,479	3,370	3,504		
No of dairy household in 2002 (HH)	77	170	213	100	560
Raw milk marketed (kg)	171,812.0	465,058.0	570,175.0	295,955	1,503,000
Market share	11.43%	30.94%	37.94%	19.69%	100.00%
Value (mill. VND)	580.542	1595.688	1945.422	1009.207	5130.859
Average price received (VND/kg)	3379	3431	3412	3410	

Source: survey 2002–2003

tors, and then restrained development of PDC.

Raw milk marketing in HCM city is very different from Hanoi (figure 2). Milking is usually done by milkmen through verbal contracts with farmers. There are hundreds of milkmen in Tanxuan commune. According to the contracts, farmers receive VND 2700 per kg; twice a day milkmen come to verbally contracted dairy farms at certain times to do milking, from 3 o'clock to 8:30 in the morning and from 2:30 to 5:50 in the afternoon. All milkmen have to directly sign written contracts with Vinamilk. The signature of dairy farmers in the written contract confirms their cows having the inoculation against epidemic diseases. Vinamilk does not accept the contracts without dairy farmers' signature. After milking, milkmen take risk. They store milk in cans and deliver to milk receiving station before 9 o'clock in the morning or before 6 o'clock in the afternoon. Milk is left outside for 2 to 3 hours before stored in receiving stations. At the receiving stations, milk samples are taken out from each can of each milkman by both collector and Vinamilk's staff (picture 9,10). Milkmen will get a maximum price of VND 3200 if three milk quality criteria are A (table 5). On average, milkmen receive VND 3100 per kg from Vinamilk. Vinamilk will cancel the contract with collector soon after the third violation of milk quality criteria.

In Tanxuan commune, four milk receiving stations have been installed. Each station has 2 or 3 tanks. Total capacity of these stations are much higher than those of Phudong. Total raw milk actually marketed is around 5 to 7 tones per day in each station (table 4). Unlike receiving stations in Phudong–Hanoi, in Tanxuan–HCM city the collectors just sign contracts with Vinamilk to store raw milk. Vinamilk will pay collectors VND 336 per kg if quality criteria of milk are met in accordance with the contracts. Otherwise they will suffer from discount by Vinamilk (table 6). Each receiving station is allowed to store an amount of milk between 95% and 105% of the one written in the contract. Four stations have a close relationship with each other. One station will ask the others to help it if possible to receive its excess amount of milk.

TDC is not in charge of raw milk procurement. Actually, TDC has wanted to install

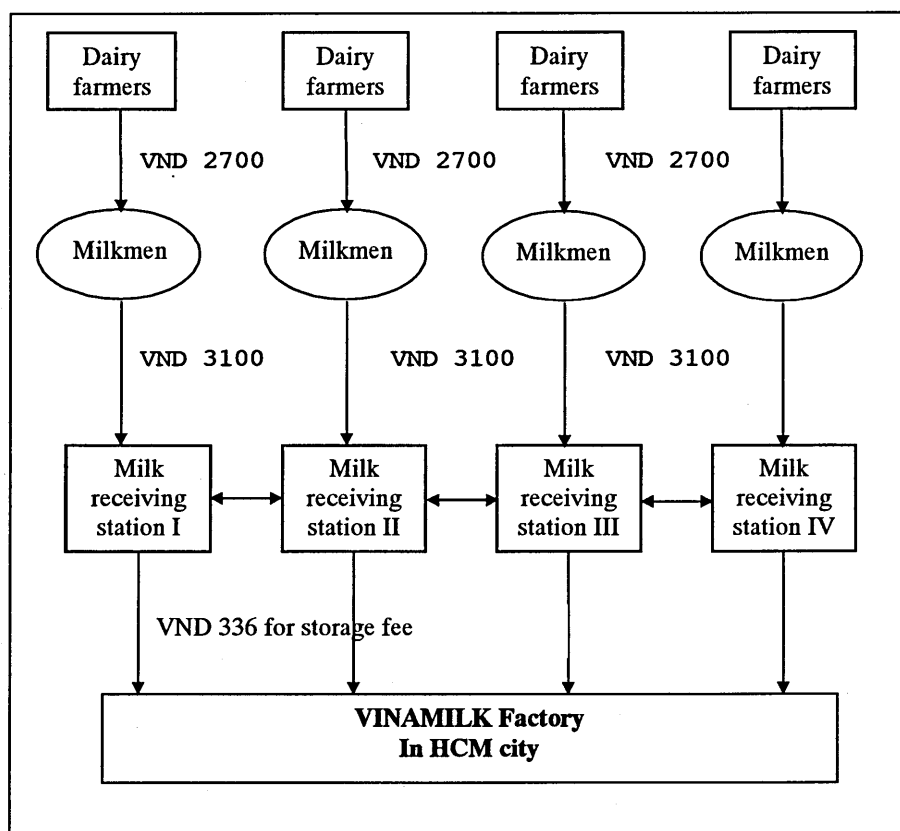


Fig. 2. Marketing raw milk in Tanxuan-HCM City

Table 4. Assets of milk receiving stations in Tanxuan

Items	Unit	Station I	Station II	Station III	Station IV
Foundation year		1995	1995	1999	2001
No. of tank	Unit	3	3	2	3
Capacity/day	Kg	5500	6800	3400	6400
No. of milkmen	Pers.	40	60	30	40

Source: Survey 2003

one raw milk receiving station, but it hasn't got enough money.

Supplying inputs

At the beginning stage both PDC and TDC supplied inputs for livestock in the communes. These services aim at supply cooperative member with reasonably priced and high-quality production materials. Livestock feed is main commodity sold by PDC. Profit



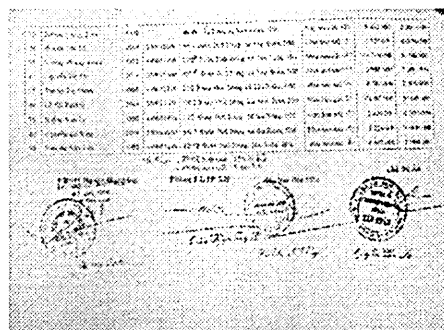
Picture 9. Milk receiving station in HCM



Picture10. Checking quality by Vinamilk staff



Picture 11. Input supplying service of PDC



Picture 12. Crediting service of TDC

made from this business in PDC was quite small, about VND 5,785,000 per year with total turnover of VND 109,813,000. Because utilization of the services has been gradually declining in the face of increased competition from outside retailers and less advantageous terms from affiliated suppliers, TDC has given up this kind of business. There is no veterinarian in PDC as well as in TDC. Without skilled veterinarians, the cooperatives has failed to organize insurances for cows, a services demanded by dairy farmers.

Crediting

Credit activities mainly encompass the extension of loans to members. PDC did not have enough money to lend its members. TDC had got capital resources from People's Credit fund and Women Union for "hunger eradication and poverty reduction". In 2002, with the help of TDC, 81 dairy farmers could access credit to buy cows or pigs with total

Table 5. Vinamilk company Truong Tho Milk Factory
Report on milk procurement by collectors From 1st Jan. to 8th Jan. 2003

Milkman	Amount (kg)	Fat	Solids	Micro-organism	Price	Total money	Name	Amount (kg)	Fat	Solids	M O	Price	Total money
MY 101	970.5	A	B	A	3150	3057075	MY 205	1519	A	B	A	3150	4784850
MY 101	481.9	A	B	B	2950	1421605	MY 205	122	A	B	B	2950	359900
MY 101	120.5	A	B	C	2800	337400	NY 207	1121	B	C	A	3050	3419050
MY 102	1690.5	B	C	A	3050	5156025	MY 207	94	B	C	B	2850	267900
MY 102	143	B	C	B	2850	407550	MY 207	96	B	C	C	2700	259200
MY 103	1498.5	A	B	A	3150	4720275	MY 208	1436	A	A	A	3200	4595200
MY 103	136	A	B	B	2950	401200	MY 208	169.5	A	A	B	3000	508500
MY 104	828	B	C	A	3050	2525400	MY 209	1116	B	D	A	2950	3292200
MY 104	74	B	C	B	2850	210900	MY 210	198	B	C	A	3050	603900
MY 104	90	B	C	C	2700	243000	MY 210	41	B	C	B	2850	116850
MY 105	866.5	B	C	A	3050	2642825	MY 210	20	B	C	C	2700	54000
MY 105	121.5	B	C	B	2850	346275	MY 212	927	A	A	A	3200	2966400
MY 106	1516	A	B	A	3150	4775400	MY 212	84	A	A	B	3000	252000
MY 106	121.5	A	B	B	2950	358425	MY 213	1626	B	C	A	3050	4959300
MY 107	905.5	B	C	A	3050	2761775	MY 215	1528.5	A	B	A	3150	4814775
MY 107	133.5	B	C	B	2850	380475	MY 216	879.5	A	B	A	3150	2770425
MY 107	58.5	B	C	D	2450	143325	MY 216	254	A	B	B	2950	749300
MY 108	361	C	D	A	2900	1046900	MY 216	90	A	B	C	2800	252000
MY 108	46	C	D	B	2700	124200	MY 217	1209	B	C	A	3050	3687450
MY 108	16.5	B	E	A	1000	16500	MY 217	92	B	C	B	2850	262200
MY 109	286	B	C	A	3050	872300	MY 217	90.5	B	C	C	2700	244350
MY 109	103	B	C	B	2850	293550	MY 217	1447.5	A	C	A	3100	4487250
MY 110	1340.5	B	D	A	2950	3954475	MY 219	133	A	C	B	2900	385700
MY 110	196	B	D	B	2750	539000	MY 219	487	B	C	A	3050	1485350
MY 111	1491	B	B	A	3100	4622100	MY 220	38	B	C	B	2850	108300
MY 111	228.5	B	B	B	2900	662650	MY 220	1545.5	A	C	A	3100	4791050
MY 112	1304	A	B	A	3150	4107600	MY 221	82	A	C	B	2900	237800
MY 112	277.5	A	B	B	2950	818625	MY 221	922	A	B	A	3150	2904300
MY 113	1139.5	A	B	A	3150	3589425	MY 222	158	A	B	B	2950	466100
MY 113	59	A	B	B	2950	174050	MY 222	873.5	A	B	A	3150	2751525
MY 114	1467.5	B	C	A	3050	4475875	MY 223	146.5	A	B	B	2950	432175
MY 114	121	B	C	C	2850	344850	MY 223	832	A	B	A	3150	2620800
MY 115	919.5	A	A	A	3200	2942400	MY 225	225.5	A	B	B	2950	665225
MY 115	43.5	A	A	C	2850	123975	MY 225	1330.5	A	A	A	3200	4257600
MY 202	379.5	B	C	A	3050	1157475	MY 226	927	A	A	A	3200	2966400
MY 202	22	B	C	C	2700	59400	MY 227	76	A	A	C	2850	216600
MY 203	297	B	C	A	3050	905850	MY 227	441	A	B	A	3150	1389150
MY 203	76	B	C	B	2850	216600	MY 228	101.5	A	B	B	2950	299425
MY 203	25.5	B	C	C	2700	68850	MY 231	842	A	B	A	3150	2652300
MY 204	1050	A	A	A	3200	3360000	MY 232	1490.5	A	B	A	3150	4695075
MY 204	307.5	A	A	B	3000	922500	MY 232	130.5	A	B	B	2950	384975

amount of VND 650,000,000. The first priority for borrowing a big amount with low interest rate was given to TDC member dairy households.

Extension services

Table 6. Ministry of Industry Vinamilk company Truong Tho Milk factory
Raw milk procurement of Station I From 16th Dec. 2002 to 31st Dec. 2002

Date	Amount kg	Payment VND	Total VND	Differences compared to technical criteria				Corresponding discount (VND)					Other discount (VND)	Total received (VND)
				Fat	Solids	Temp.	Time meth	Lac.	Fat	Solids	Temp.	Time meth	Lac.	
16th Dec. 2002	5749	336	1931664				Oh 35	Y				201215		1683199
17th Dec. 2002	5735	336	1926960				Oh 30	Y				172050		1687410
18th Dec. 2002	5759	336	1935024				Oh 30	Y				172770		1727304
19th Dec. 2002	5763	336	1936368				Oh	Y					52538	1883830
20th Dec. 2002	5737	336	1927632				Oh 40	Y				229480		1565721
21st Dec. 2002	5763	336	1936368				Oh	Y					59337	1877031
22nd Dec. 2002	5780	336	1942080				Oh	Y						1942080
23rd Dec. 2002	5776	336	1940736				Oh 30	Y				173280	12391	1755065
24th Dec. 2002	5750	336	1932000				Oh	Y					3084	1928916
25th Dec. 2002	5700	336	1915200				Oh	Y					161558	1753642
26th Dec. 2002	5780	336	1942080	0.14	0.25		Oh 35	Y	173400	173400		202300		1739780
27th Dec. 2002	5758	336	1934688				Oh	Y					86121	1848567
28th Dec. 2002	5769	336	1938384				Oh 40	Y				230760	343541	1364083
29th Dec. 2002	5780	336	1942080				Oh 30	Y				173400		1768680
30th Dec. 2002	5780	336	1942080				Oh	Y						1942080
31st Dec. 2002	5774	336	1940064				Oh	Y					18602	1921462
16 days	92153		30963408						173400	173400		2E+06	1019303	28388850

Like other agricultural cooperatives, dairy cooperatives, in cooperation with administrative agencies, agricultural research institutes, veterinarians, and other groups, are helping dairy farmers to learn the way of caring, feeding cows and operating their farms more efficiently through extension programs. However, the number of training courses is very few. Not much impression was left in farmer's mind. All dairy farmers report that they have learnt experiences from their neighbor. So, the best way to help farmers is to let them see and let them try what you recommend.

Marketing cost and net benefit of PDC

As shown in the table 7, PDC and all other collectors have to pay the same price for dairy farmer, but PDC get lowest price at factory gate. Although PDC get benefit from leasing tank and supplying inputs, net benefit from its activities is only about VND 60 million per year because of lower marketed raw milk quantity and price compared to other stations. It is estimated that PDC has to spend VND 275 to market a kg of milk. Whereas, marketing costs of other collectors range from 99.79 to 124.68 VND per kg, only one-third or half of that of PDC. This proves the ineffectiveness of PDC's milk marketing. If all milk is marketed through cooperative, it will get benefit more than VND 450 million in 2002 and the amount will be increased in proportion with number of cows. This benefit is originally created by dairy farmers. Dairy cooperative could use this money to lend its members in rotation to reinvest in their farms. To achieve the above benefit, each farmer is required to understand the merit of joining cooperative. They must know that their participation into cooperative will help not only themselves but also other member farmers. It is mutual benefit. Therefore, cooperative managers and other related organizations should launch a movement to encourage farmers to join cooperatives as soon and

Table 7. Raw milk marketing cost-benefit of PCD and other private stations in the year 2002 in Phudong commune

Items	PDC station	Station 2	Station 3	Station 4
Revenue (Mill. VND)	593.538	1595.614	1945.437	1009.207
Revenue from milk procurement	580.553	1595.614	1945.437	1009.207
Factory gate price minus delivering cost (VND/kg)	3379	3431	3412	3410
Total raw milk marketed (kg)	171812	465058	570175	295955
Benefit from tank leasing	7.200			
Benefit from input supplying (feed selling)	5.785			
Cost (Mill. VND)	532.436	1449.274	1767.425	924.765
Farm gate price (VND)	3000	3000	3000	3000
Money paid to farmers	515.436	1395.174	1710.525	887.865
Labor cost		14.400	14.400	14.400
Depreciation cost	3.000	3.000	3.000	1.500
Electric cost	6.000	12.000	12.000	6.000
Interest cost	5.000	10.000	20.000	10.000
Tank hiring cost		7.200		
Other cost	3.000	7.500	7.500	5.000
Net benefit (Mill. VND)	61.102	146.340	178.012	84.442
Saving value	22.608			
Milk marketing cost	47.314	54.100	56.900	36.900
Marketing cost per kg of raw milk (VND/kg)	275.38	116.33	99.79	124.68

Source: survey 2002-2003

as much as possible.

Challenges facing cooperatives

With the structure of dairy farms and the food system changing rapidly, dairy cooperative will be challenged to meet the needs of more diverse member farmers, and to be competitive in serving the needs of customers in the marketplace. Dairy cooperative in Hanoi and Hochiminh city have been facing many difficulties, one affecting the other and vice versa.

First of all, most dairy farmers used to be rice producer belonging to agricultural cooperatives collapsed before or weakly giving services. Dairy farmers in Phudong got a bad impression lead by previous director on the possibility of collapsing of PDC, and dairy farmers in Tanxuan as well as farmers in HCM city don't want to join cooperatives because they are scared of losing their heritable land. Even though dairy cooperatives are now established according to the new cooperative law, dairy farmers still hesitate to join. Referring to the question "Why don't you participate in dairy cooperative", 90% of the answers in Hanoi and 50% of that in HCM city were "benefit not seen". The other answers were some things like "no information about dairy cooperative", "no encouragement to join". Responding to the question "do you intend to be dairy cooperative members", farmers said they will follow their neighbors. These show dairy farmers' poor understanding about cooperatives and their benefit from cooperatives in the long run. They are very passive in incorporating into cooperatives or associations. This made the size of cooperative quite small in terms of number of its members. The size of cooperative is too small to take advantages of "economy of scale". Furthermore, the scope of activity

of the single-purpose cooperatives is limited to provide specific services; and so diversified demands of their members could not be met. In return, it is really difficult for a specialized cooperative to enlarge its size.

Secondly, all dairy cooperatives lack capital. PDC cannot afford a truck; and so it has to pay VND 50,000 per day for rent a truck to deliver milk to the factory (picture 8). TDC wants to have money to install milk receiving station to collect raw milk for its members. Both PDC and TDC lack of capital to start new activities and extend existing activities. One important source of capital for cooperative is shares of members. The more farmers are cooperative members, the more capital cooperative will have. A cooperative with crowded members will get not only a big amount of money from shares but also a big profit from doing services for its members. The remaining problem is how to attract farmers to be cooperative members.

Thirdly, cooperative leaders and management board are very inactive. A strong cooperative needs an enthusiastic, active and creative leader who dares to think, dare to do and dare to be responsible for innovations. Cooperative leader should widely propagate purposes of cooperation and benefits from cooperative. Development strategies, business plans should be made and shown to dairy farmers to attract them.

Finally, dairy cooperatives have been facing the competition with the private sector. At the stage of a small scale, business is generally effectively run by private sector (table 7). It is very difficult for cooperative to compete with private sector when dairy farmers can only see benefits in the short run. Dairy cooperatives would be further developed when farmers could understand that they will help themselves and help other farmers if they join cooperative. At the present stage, dairy cooperative should diversify their functions, create belief to farmers and step by step incorporate new members. In the long run, at the stage of a certain large scale, private sector won't be able to serve farmers, and then cooperation will be indispensable. So, cooperative leader should prepare for the above situations in the future.

Conclusion

In general, single-purpose cooperatives play a more important role when commercialization of agriculture develops with the advance of specialization of farming. Considering the current conditions of agriculture in Vietnam, therefore, general-type or multi-purpose cooperatives should be encouraged to develop on the basis of communal ties of farmers within each village or commune (Cho 2001).

Compared to single-purpose cooperatives, multi-purpose cooperatives can provide diversified services for member farmers who cultivate diversified crops or operate enterprises, want to apply modern technology, wishes to market their products, need to access to credit and so on. Unless the cooperative provides its members with multiple services, member farmers need to associate with other cooperatives. Moreover, when a cooperative is engaged in various activities, the total volume of the business operated by the cooperative becomes relatively larger. It may take advantage of the "economy of scope". In addition, a multi-purpose cooperative with financial services, marketing services of farm product and supplying input materials will be able to cooperate with farmers and help them at any stage of production process.

According to Cho (2001), in Japan, of the two types of cooperative, multi-purpose

cooperatives became more prominent during the course of the development of cooperative movement. This was attributable to the following four factors: the first one was the government policy which was more preferential for multi-purpose cooperatives; the second was the traditional structure of the rural society which favored the development of multi-purpose cooperatives; the third was the advantages of multi-purpose cooperatives over specialized-type ones under the prevailing conditions of small-size, diversified farming; and the fourth was the various effects generated from the integration of diversified activities within the unitary organization. Considering the case of Vietnam, where national economy and also agriculture are in the course of restructuring (Phan, 2000) and steadily going toward commercialization, agricultural cooperatives in general and dairy cooperatives in particular should be further developed to cover all the needs of their members. The more services and members that cooperatives serve, the more profit they will get. This will result in lowering input prices and heightening output prices. The bigger difference between benefit and cost will encourage farmers to invest more in production. And the conveniences of getting input and selling output through cooperative will stimulate farmers to join cooperatives.

Based on the above study, some recommendations relating to dairy cooperatives are made as follows. The government should give attention to establishment of new cooperative in any dairy community. Such new cooperatives need assistances in terms of human and financial resources. The core cadres of cooperatives should be trained in the basic knowledge such as managing, marketing, and economics. Furthermore, extension courses should be held to educate dairy farmers on dairy farming and cooperative operation. In the beginning stage, it is very helpful for cooperatives to receive some capital from other entities to invest in infrastructure, for example office, and equip model facilities, like computers or vehicles for management. Implementation of this strategy is absolutely suitable to decisions of Deputy Prime minister on milking cow development in Vietnam (Nguyen 2001).

Activities of the existing dairy cooperatives should be extended and strengthened including insurance service to make dairy cooperative helpful and responsible for all stages of dairy production. Dairy cooperatives should be involved in a number of activities from milk procurement, milk processing to marketing of milk and milk products. The inefficiency of a single purpose dairy cooperative suggests that dairy cooperatives like PDC and TDC should cover more activities other than milk procurement and crediting. They should be the multi purpose dairy cooperatives. Network of milk receiving stations should be organized and managed by dairy cooperatives in order to ensure a stable and profitable milk price for dairy farmers. Cooperative leaders should launch a movement to incorporate new members.

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