The Status of Tobacco Production in Ilocos Sur

Florida U. Ursulom
AIma B. Segismundo
Angelina Q. Verzosa

Abstract

This study was conducted to assess tobacco production in Ilocos Sur during the cropping period, September 2003 to April 2004.

Majority of the tobacco farmers planted in less than a hectare of land located on plain areas. No farmers planted in salty area nor in large scale (more than 2 has). Not all of the tobacco farmers owned a curing barn or "pugon". Majority of them still maintain carabaos/cattles or livestock and still used the traditional plow. Most of the farmers borrowed capital from trading centers and only few borrowed from a cooperative. Income from tobacco is still good in all modes of selling for small scale production but, in medium scale of production, the tobacco produce must be sold in bulk and by classified mode. There were no significant differences in income in small scale production disposed under the different modes of selling. However significant differences in income occurred in medium scale production under the three modes of selling. This means that the tobacco produce gathered from a larger area of land can he better sold in bulk and classified modes. There was no significant differences on net income as regards to scale of production

The tobacco farmers should maintain planting tobacco on a land that is suitable or not salty. Small producers should have communal curing barns; to join a farmer with a "pugon" if the scale of production is small unless there is a pre-set marketing scheme of selling tobacco as green leaves or "pakyaw"- tobacco plants ready for harvest that is purchased at an agreed amount, Small scale farmers can likewise maintain a draft animal and traditional plow better than borrowing money just to acquire a tractor. Cooperatives must have more active role in addressing to critical needs of farmers and identify or emulate the loan features preferred by farmers as offered by trading centers. Persistently low income tohacco farmers can shifi to alternative crops like hvbrid corn, cassava, soya beans, and mung beans. Tobacco produced below I ha can be sold by

any mode (assorted, classified, green leaves) but large scale tobacco production can be better sold in bulk and by the classified mode. The scale of production has no significant effect on net income, therefore, farmers should produce tobacco that is manageable in terms of capital and labor for better quality, good harvest, and higher net income. The provincial government is duty bound to implement responsive development programs to motivate the tobacco farmers since the excise tax coming from tobacco, which forms part of the government revenue, is at stake.

Introduction

Background of the Study

Tobacco *(Nicotiana tahacum)* is a plant grown commercially for its leaves and stems which are rolled into cigars, shredded for use in cigarettes and **pipes,** processed for chewing, or ground into snuff. or fine powder that is inhaled through the nose.

Environmental factors influence the plant's characteristics. Good quality tobacco requires fertile, well-drained, moist soil and wann temperatures. Most types of tobacco are grown in full sun. Soil can affect leaf size. texture, and color. Sandy soils tend to produce a relatively large leaf that is light in color and body, fine in texture, and burns with weak aroma. Heavier soils. which contain silt and clay, tend to produce a small, dark leaf with a heavy body and a strong aroma when burned.

Tobacco is an economically important crop for many nations. Approximately 7 million tons of commercial tobaccos are grown each year. with a value of $39 billion. About 2 million tons of unmanufactured tobacco leaf. at a value of about $6,500 per ton is annually exported worldwide (Haynes, 2003). Leading tobacco-growing countries are China, the United States. India, Brazil. Turkey, and Zimbabwe.

Tobacco plays a major role in the Philippine economy. It is the main source of livelihood of about 6 million people and another 21 million in related enterprises. The tobacco industry contributes more than 1.5 billion pesos annually to the national income (Manalili and Javier, 1986) also in Teodoro and Torres. 1987.

During a Consultation Dialogue on June 18. 2003 in Candon City, Ilocos Sur threatening problems of tobacco farmers were raised among which: 1) tobacco production in Ilocos Sur during the cropping period 2002-2003 has become unfavorable due to very low prices: 2) some tobacco farmers had unpaid accounts

due to unsold product as traders refuse to buy tobacco grown on salty areas; and 3) some farmers have shifted to other crops.

The researchers conducted this study to determine if tobacco production is still viable. The result of this study shall be disseminated to the Provincial Government, to the National Tobacco Administration Office, and to the tobacco farmers for possible action.

Objectives of the Study

Generally, this study aimed to assess the tobacco production in Ilocos Sur during the cropping period, September 2003-April 2004.

Specifically, it aimed to answer the following problems:

I. What is the profile of tobacco producers in terms of the following aspects of tobacco production:
   a. Land
      a.1. Size,
      a.2. Location, and
      a.3 Type;
   b. Farm implements:
   c. Financial aspect
      c.1. Source of capital, and
      c.2 Mode of selling?

2. What is the profile of tobacco production in Ilocos Sur in terms of the following factors by mode of selling?
   a. Scales of production,
   b. Income,
   c. Expenses?

3. Are there significant differences on the income generated from the three modes of selling in the three scales of production?

Review of Literature

The annual tobacco cultivation cycle begins with the planting of seeds. In the United States, seed planting begins in March in southern states and June in northern states. In the Philippines, seed planting begins in September to October. To keep young plants watered and weeded, growers sow the seeds in specially prepared seedbeds or fertile, loose soil, rather than directly in the field.

One to two months after planting, the growers transplant the seedlings into the field – a labor-intensive process called setting the tobacco. As flowers form on the plants, growers remove them in a process called topping, which encourages more leaf growth.

Tobacco is harvested 70 to 130 days after setting. The harvesting method depends on the type of tobacco. For some tobaccos, farmers cut whole plants off at the ground and spear them onto a stick, called a tobacco stick. For other tobaccos, farmers remove the mature leaves and string them on wires or tobacco stick leaving the rest of the plant to continue growing.

After tobacco is harvested, it is cured. or dried, and then aged to improve its flavor. There are four common methods of curing, and the method used depends on the type of tobacco and its intended use.

NEDA in its report on "Modernizing the Tobacco Industry in Region I" mentioned that the average world unmanufactured tobacco production for the past five years (1998-2002) is 5.9 million metric tons (day weight). China is the largest producer, followed by India and Brazil. In CY 2002, China's production of 2.3 million metric tons accounted for 39% of the world total production. The Philippines, with its production of 61,380 mt for 2002, contributed to 1.02% to the world total production.

The Philippine tobacco industry involves the production and trading of tobacco leaf and the processing, manufacture, distribution and sale of tobacco products primarily cigars and cigarettes. While tobacco is planted only in about 0.89% of the country's estimated total cropland of 4.5 million hectares, it provides about 3.7% of the total government receipts or P24.58 billion annually. The total number of registered tobacco farmers is 62,417. Virginia tobacco farmers comprise 32,352 or 52%, native tobacco, 18,729 farmers or 30%, and burley tobacco with 11,336 farmers or 18%.

Presently, there are three tobacco types grown in Region namely: Virginia. Burley and Native leaf tobacco. The tobacco growing provinces of the Region are Ilocos Norte, Ilocos Sur, La Union and Pangasinan. Total land area planted to the different tobacco types is 27,245 or 68% of total tobacco area. The total number of registered tobacco farmers is 40,126 or 64% of the national total.

Tobacco products include cigarettes, cigars, and pipe tobacco, which are smoked: snuff, which is inhaled into the nose; and chewing tobacco, which is chewed but not swallowed. Tobacco is also used for nicotine products, such as insecticides and medicines. The nitrogen-rich stalks left after harvesting are used as a fertilizer in tobacco-growing regions (Hynes, 1993-2002).

Briones and Obien (1986), in their study on "A Crop Value Index for Tobacco", found out that crop value of tobacco, expressed in pesos per hectare, is determined by leaf yield, leaf grade and interplay of market forces affecting the industry. If optimum level of fertilizer application is based on crop value. that is, the level which provides highest net retum on fertilizer investment, the identified optimum level becomes very subjective. On the other hand, if it is based on yield and grade index data, the response curves do not follow defined relationship with the rate of fertilizer application. Hence, there is a need for a single parameter that takes into account both leaf yield and grade index.

Domingo and Gudoy (1986) found that the most important characteristics of a tobacco variety are yield potential and quality of the cured leaves.

Pagcaliwagan and Mabesa (1986) found out that growth adjuvant, gibberellic acid, and commercial liquid fertilizer did not enhance the growth of fluid-drilled tobacco seedlings. Thus, the benefit derived from fluid-drilling cannot be extended to the use of these substances. They also found out that the kind of basal fertilizer is an important consideration in raising tobacco seedlings. Basal fertilization with fertilizer containing higher P (phosphorus) as in the NPK (nitrogen, phosphorus and potassium) fertilizer combination, 4.5-75-45 g sq m, can further enhance the growth of fluid-drilled tobacco seedlings and manifested in longer roots, larger leaves, bigger stem diameter and heavier dry shoot.

Abrogena and Naso) (1986), in their study on "Resource Productivity Estimates of Flue-Cured Tobacco Farms in Ilocos Region". showed that the main factor inputs which significantly influenced the yield of flue-cured tobacco were land area planted, labor days. fertilizer, operating expenses, and firewood. Land area planted gave the greatest contribution to yield followed by operating expenses. A one percent (1 %) change in the amount of all inputs used would change the total product in the same proportion.

The average, flue-cured tobacco farms in Region I did not use their resources in an optimally efficient manner. Land and fertilizer inputs were underutilized while labor, operating expenses and firewood inputs were excessively used. Fann size above 1.50 ha was relatively more efficient than the smaller farms. Farms above 1.50 ha would produce greater quantity of output for a given quantity of factors of production than farms below 1.51 ha. Economies of scale were evident in larger farms. In order to attain higher productivity and efficiency in the use of resources, adjustment of the organization and operation of the flue-cured tobacco farm business is desirable to maximize expected returns from resources. Thus. the flue-cured tobacco farmers should increase their land area and fertilizer use, and reduce that of labor, operating expenses and firewood to attain higher productivity of resources.

In the study of Jose and Inovejas (1986), entitled "Decision-Making of Flue-Cured Tobacco Fanners of Ilocos Norte on the Adoption of recommended Technology", the advent of improved technology in tobacco production should be coupled by thorough understanding of bio-physical as well as economic and capital outlay. Cash resources had positive influence on fanners' adoption of recommended fertilizer. pesticide, variety, irrigation schedule, and distance of planting. Also, drought conditions hindered fanners to adopt fertilizer recommendations, time of planting and irrigation schedule. In general, farmers were aware of the recommended practices but have not readily adopted them due to limitations on capital and unfavorable fann conditions. Tradition and attitude among fanners and accessibility of inputs like fertilizers, pesticide, and irrigation services are also restraining factors in the adoption of the recommended technologies. Uncertainty among fanners was not a direct detriment to farm development. It was more influenced by resource ownership, income stability, environmental factors and tradition.

Teodoro and Torres (1987) in their socio-economic review on the Philippine tobacco industry claimed that tobacco industry generates substantial revenue for the government, provides income and employment to a great number of Filipinos and promises to be a net dollar earner. Also, the government realizes substantial income annually from excise taxes charged to cigarettes, cigar and other tobacco products. The amount of taxes significantly increased from P1.58B in 1981 to P5.1B in 1986 with an average growth rate of 29%. This amount represented 27% of the government's gross collection on excise taxes which ranked second only to collections on fuel and oil products.

During the consultation dialogue of Region I and Cordillera Administrative Region (CAR)Tobacco Farmers with Department of Agriculture (DA) Regional Director, National Tobacco Administration (NTA), City Government of Candon and provincial political leaders on June 18, 2003 in Candon City, the following problems and threats were raised: I) no buyers of tobacco products; 2) there are imported tobaccos coming in the country that caused low price of tobacco; 3) "El Niro" or scarce water supply and the untimely rains that reduce the quality of tobacco; and 4) worldwide anti-smoking campaign makes tobacco a sunset industry.

In the same occasion, common sentiments demands and concerns were threshed out: I) equitable sharing of RA 7171 among barangays for development projects; 2) subsidy from government or "start-up capital" given to tobacco farmers .until such time that they are able to provide their own capital or there should be tobacco bank to grant capital loans at low interest; 3) a regular fund from RA 7171 inorder to have good services of concerned agencies, specifically DA and NTA, for the tobacco farmers; 4) congress should work out for the increase of tobacco farmgate prices: and 5) "health insurance" for farmers due to exposure to pesticides.

In response to the issues and demands presented by the tobacco fanners the following suggestions from the Government Officials were given: 1) plant hybrid com, cassava and other alternative crops whose planting materials could be available at the Office of Ilocos Sur Governor; 2) there's a need to improve irrigation system; 3) submit "development plan" to have share from RA 7171; 4) there's a need for an amendment in the provision of the RA 7171; 5) only plant tobacco on suitable areas for good quality, avoid salty areas, and consult NTA on alternative crops for salty areas; 6) subsidy is no longer good because it causes loss of government funds based on previous experience; and 7) State Universities and Colleges should conduct researches on tobacco to help solve stated problems.

Operational Definition of Terms

Expenses. Total cash cost incurred in tobacco production that includes labor, rentals, interest on loan capital, fuel, product transport, pesticides, fertilizers, curing barr, and other materials expenses.

Land. The size or land area, type of soil, and farmland where tobacco was planted.

Large Scale Production. Tobacco production with a land area of 2.0 ha and above.

Medium Scale Production. Tobacco production with a land area of 1.0 to 1.99 ha.

Small Scale. Tobacco production below 1 ha.

Net Income. That which remains from the total gross sales after deducting total expenses.

Methodology

This study made use of the descriptive method of research. Questionnaires and monitoring sheets were used to collect data. Trained enumerators were employed to monitor the expenses and sales. Six (6) farmer respondents were randomly selected per municipality; The different municipalities of Ilocos Sur involved in this study were: Sinait, Cabugao. San Juan, Magsingal, Sto. Domingo. Sta. Maria, Narvacan, Nagbukel, Sta. Maria, Burgos. San Esteban, Candon, Lidlidda, Salcedo. Banayoyo. San Emilio, Santiago, Sta. Lucia, Sta. Cruz. Tagudin, Alilem, Suyo, Quirino, Sigay, Cervantes, Sugpon, and Del Pilar, planting tobacco during the cropping period September 2003 to April 2004. There were 157 tobacco

fanners who were taken as respondents. The statistical tools used **were** frequency and percentage, mean, t-test, and ANOVA.

Results and Discussion

Profile of Tobacco Producers

Table 1 summarizes the profile of tobacco producers in llocos Sur. On land size, location, and type, majority of the respondents planted on a land area of below one hectare and none planted on a land area of two (2) hectares and above. Majority claimed they planted on a "plain" location of soil (124 or 78.98%). All of the respondents claimed to have planted suitable type of soil.

Table **1. Profile** of tobacco producers in Uocos Sur.

PROFILE OF TOBACCO PRODUCERS	FREQUENCY (N=157)	PERCENTAGE %)
A. Land		
A.I Size		
Below I ha.	115	73.00
1ha–1.99 has.	43	27.00
2 has. and above	0	
A.2 Location of Soil		
Hilly	33	21.02
Plain	124	78.98
A.3 Type of Soil		
Suitable	0	
Salty	157	100.00
B. Available Farm Implements		
Hand Tractor	30	19.11
Plow	116	32.48
Kuliglig	SI	73.89
Carabao/Cattle	125	79.62
Curing Bam or "Pugon"	145	92.36

Table 1 continued

PROFILE OF TOBACCO PRODUCERS	FREQUENCY (N=157)	PERCENTAGE %
C. Financial Aspect		
C.1 Source of Capital		
Cooperative	4	2.55
Trading Center	97	61.78
Middlemen	11	7.01
Friends/relatives	8	5.10
Self-financed	37	23.57
C.2 Mode of Selling"		
Assorted	79	50.32
Classified	84	53.50
Green Leaves/"Pakyaw"	6	3.82

multiple response

Planting tobacco in less than two (2) hectare may imply tobacco farmers' conviction that tobacco production is no longer a lucrative source of income. The result can likewise imply growing scarcity of suitable or non-salty areas.

Majority (145 or 92.36%) of the respondents have curing barn or "pugon". The small farmers may have joined a fellow farmer for the curing of their tobaccos or may have sold their produce by "pakyaw" or in green leaves. The least owned farm implement is the hand tractor with 30 or 19.11 % of the respondents.

On money capital, majority of the respondents borrowed from Trading Centers (97 or 61.78%) and few borrowed from their cooperatives (4 or 2.55%).

Borrowing from Trading Centers may imply great confidence of tobacco farmers on the buying capability of the Trading Centers and that the buying price may be higher as compared to middlemen or through a cooperative.

Majority (84 or 53.50%) of the respondents sold their produce after having them sorted and classified according to leaf quality as assorted leaves (79 or 50.32%) and green leaves/"pakyaw" (6 or 3.82%). Those sold by assorted and classified modes were flue-cured leaves.

Profile of tobacco production

Tables 2 to 3 show the profile of tobacco production in terms of scale of production. gross sales. expenses, and net income in the three modes of selling.

Table Z. Profile of small scale tobacco production in 1locos Sur in terms of gross sales, expenses and net income under three modes of selling.

MODES OF SELLING	NUMBER OF FARMERS N=I14	VOLUME OF PRODUCTION (KG)	GROSS SALES (P)	EXPENSES (P)	NET INCOME (P)
Assorted	57	486	22,824	16,718	6.106
		516	24,792	17,774	7.018
		955	42,440	32,798	9,642
		982	43,000	33,111	9,999
		958	39,264	27,015	12,249
		950	36,403	24.760	11.643
		1,425	59,850	19,450	40,400
		500	23,000	15.550	7,450
		450	17,100	10,150	6,950
		800	36,000	19.550	16.450
		510	18,460	11,350	7.110
		540	21,600	14,225	7375
		1,675	67,000	42,190	24.810
		414	20,246	18,08I	2.165
		1,109	54,426	42,450	11,976
		1,662	74,259	55,959	18,300
		2,103	68.978	53,830	15,148
		61	2.135	1,702	433
		290	9,600	7,917	1.683
		297	9.820	8,062	1,758
		311	8,136	6,767	1.575
		108	3,780	3,056	724
		54	1,350	1,105	245
		465	21,855	17,760	4,095
		1,073	53,290	34,519	18.771
		1,680	74,005	58,291	15,714
		1,125	49,021	38,653	10.368
		495	23,245	13,252	9,993
			61,676	46.585	15,091
		590	27,360	21,489	5.871
		470	22,480	17,345	5,135
			47,668	35,926	11.742
		998	48,708	35.850	12.850
		990	45,540	35,850	9,690
		1,020	48,956	35,850	13.106
		1,013	48.810	35.850	12,968
		538	27,152	23.851	3.301
		996	46.952	38,504	8,448
		996	34,894	28.225	6.669
		514	19,295	13,475	5.820

Table 2 continued

MODES OF SELLING	NUMBER OF FARMERS N=114	VOLUME OF PRODUCTION (KG)	GROSS SALES (P)	EXPENSES (P)	NET INCOME (P)
		958	36,760	33,545	3,215
		968	37,461	29,155	8,306
		1,365	53,270	45,237	8,033
		2,115	99,770	72,267	27,503
		989	48,082	39,171	8,910
		1050	50,625	41,894	8,731
		510	24.575	24,446	129
		1,600	76,288	57,559	18,729
		1,050	419,739	41,930	7,809
		543	30,943	20,050	10,893
		1,367	57,165	46,858	16,315
		1,422	61,514	45,871	15,703
		967	49,419	38,411	11,008
			47,657	25,910	21,747
		962	40,856	30,284	10,572
		950	37,032	29,814	7,218
		585	30,870	21,686	9,184
TOTAL	**57**		**2,607,396**	**1,658,933**	**584,846**
Classified	56	1,582	70,652	55,182	15,470
		1,302	66,285	25,635	40,650
		750	37,451	15,665	21,786
		833	22,494	21,567	927
		480	19,104	15,229	3,875
		1,151	54,009	36,908	17,101
		1,141	51,397	43,669	7,728
		525	26.950	19,899	7,051
		1,014	46,079	33,203	12,876
		500	20,895	18,970	1,925
		676	23,441	20,934	2,507
		450	21,240	13,873	7,367
		798	38,584	25,096	13,488
		441	21,396	14,372	7,024
		852	40,188	24.021	16,167
		640	32,153	20,800	11,353
		1,024	44,146	34,849	9,297
		696	21,756	19,613	2,143
		710	32,442	24,333	8,109
		995	44,775	36,059	8,716
		579	28,371	22,710	5,661
		550	22,000	17,500	4,500
		1,092	49,140	40,276	8,864
		1,101	47,200	30,921	16,279
		603	27,354	19,526	7,828
		1,635	66,753	54,484	12,269

Table 2 continued

MODES OF SELLING	NUMBER OF FARMERS (N=114)	VOLUME OF PRODUCTION (KG)	GROSS SALES (P)	EXPENSES (P)	NET INCOME (P)
		498	22.410	17,538	**4,872**
		540	22,282	17.670	4,612
		963	43,793	35,517	8.276
		1,005	45,225	36,106	9119
		1,675	85.487	56.300	29.187
		1.022	50,146	37,107	13.039
		1,118	57,987	37,671	20.316
		390	18.514	14.759	3,755
		1,062	51,000	42,059	**8,941**
		1.065	50.875	41,772	9,103
		683	32.120	26.715	5,405
		795	35,920	29,048	6.872
		398	18,926	15,438	3.488
		1.586	63,440	48.274	15.166
		1,045	43.890	34,920	8.970
		987	47.376	38,906	8,470
		920	45.724	35,920	9,804
		1,406	61,864	49,835	43.671
		6x0	32,946	25.560	7.386
		1,289	52.236	42,031	10,205
		1.650	60,390	46.503	13.887
		988	46.160	36,543	9.617
		520	21,546	15.095	6,451
		508	22.373	15.549	6.824
		1,228	44.826	33.440	11,386
		1,047	44.087	30,172	13.915
		1,152	49.045	38,885	10.160
		1,681	75.401	59.695	15.706
		1.950	90,175	60,567	29.608
		542	15.824	14,345	1,479
		498	21,604	16,497	5,107
		1.571	68.099	45.020	23.079
		470	20,849	15.456	5.393
		1,678	70.841	46,119	24.722
		990	42.650	34.625	8.025
TOTAL	**56**		**2,552.286**	**1.896,951**	**686,977**
Green Leaves "Pakyaw"		12.882	51,528	26.560	24.968
			11,738	$.222	6,516
			12,900	4.486	8,414
			29.800	9,230	20,570
			35,272	31,460	3.812
TOTAL			**141,238**	**76,958**	**64.280**

The scales of production were small to medium. Table 2 shows the gross sales, expenses and net income by the three modes of selling in small scale production while Table 3 shows the gross sales, expenses and net income by the three modes of selling in medium scale of production.

Table 2, shows that the highest gross sales are P99,770 for the assorted, p90,175 for the classified, and **P** 51,528 for the green leaves. The least gross sales are **P**1,350 for the assorted, **P** 18,514 for the classified, and **P** 11,738 for the green leaves.

From the same table, the highest expenses were P8,291 for the assorted, P60,567 for the classified, and 31,460 for the green leaves. The declared least expenses were P1,105 for the assorted, P14,345 for the classified, and P4,486 for the green leaves.

The table also shows that the highest net income obtained were P40,400 for the assorted, P43,671 for the classified, and P20,570 for the green leaves. The least net income were P245 for the assorted, P927 for the classified, and P3,812 for the green leaves.

The above findings imply that even though the gross sales garnered from a small scale production are high in assorted mode or classified mode of selling, this does not guarantee that they produce the highest net income. If sold in bulk, classified mode of selling gives the highest net income. But if sold in small volume, there is a lower net income. However, those sold in small volumes were part of those that were sold in green leaves that yielded high net income.

In Table 3, medium scale production had the highest gross sales of P126,740 from the assorted, p179,176 for the classified, P25,761 for the green leaves. The least gross sales were P43,096 for the assorted, P6,580 for the classified, and P3,151 for the green leaves.

The highest expenses incurred was R92,295 for the assorted, P115,965 for the classified, and P9,912 for the green leaves. The least expenses were P30,496 for the assorted, P7,466 for the classified, and R 1,110 for the green leaves.

The highest net incomes were P37,469 for the assorted, P95,130 for the classified, and P15,849 for the green leaves. The least net income derived was P12,600 for the assorted, P886 for the classified, and P2,041 for the green leaves.

The data imply that tobacco produce sold in bulk, gives higher net returns, especially if sold by classified mode. When sold in small volume, there existed a loss, however, those sold in small volume are part of those sold by green leaves/"pakyaw" that produced high net income.

Table 3. Profile of tobacco production in Ilocos Sur in terms of gross sales, expenses and net income in medium scale production by the three modes of selling.

MODES OF SELLING	NO. OF FARMERS (N=43)	VOLUME OF PRODUCTION (KG)	GROSS SALES (P)	EXPENSES (P)	NET INCOME P)
Assorted	13	2,262	98,807	74,942	23,865
		2,288	97,464	66,177	31,287
		1,296	43,096	30,496	12,600
		2,811	126,740	92,295	34,445
		1,801	77,284	49,715	27,569
		1,802	76,020	50,180	25,840
		3,160	103,662	70,909	32,753
		1,950	94,170	56,701	37,469
		1,350	47,050	34,122	12,928
			60,925	45,912	15,013
		2,042	73,632	54,085	19,547
		1,907	91,115	69,403	21,712
		1,825	76,270	57,224	19,046
TOTAL	**13**		**1,066,235**	**752,161**	**314,074**
Classified	30	3,542	145.876	115,965	29.911
		2,004	90,180	67,734	22,446
		2,125	85,000	63,150	21,850
		2,249	100,972	80,764	20,208
		2,603	137,365	60,785	76,580
		217	6,580	*7,466*	(886)
		1,084	53,255	39,835	13,420
		2,043	88,353	70,169	18,184
		1,928	85,015	70,910	14,105
		2,240	94.551	74,069	20,482
		2,827	95,590	76,131	19,459
		3,956	179,176	103,975	75.201
		2,200	91,860	63,481	28,379
		2,583	131,629	103,704	27.925

Table 3 continued

MODES OF SELLING	NO. OF FARMERS (N=43)	VOLUME OF PRODUCTION (KG)	GROSS SALES (P)	EXPENSES (P)	NET INCOME (P)
		1,379	62,863	53,687	9,176
		2,216	101,752	79,420	22,332
		1,004	42.059	34,730	7,329
		1,598	75,170	51,725	23,445
		1,802	75,720	57,860	17,860
		2,059	85,657	68.980	16,677
		3,496	148,69°	118,466	30,229
		6,267	224,11:	158,397	65.718
		1,936	99.68	34,120	65,569
		2,650	140,450	45,320	95,130
		2,700	132.985	47,67	85,315
		1,876	75,355	21,567	18,203
		1,790	73.005	57,152	26,853
		2,059	84,419	60,360	24,059
		2,215	100,965	78,522	22,443
		3,898	169,850	93,460	76,390
TOTAL	**30**		**3,078,151**	**2,059,574**	**993,992**
Green Leaves""Pakyaw"			3,151 25,761	1.110 9,912	2,041 15,849
TOTAL			**28,912**	**11,022**	**17,890**

Significant Differences on Net Income

Tables 4 to 8 provide the computation for the difference on net income among the three modes of selling in small and medium scale productions.

Table 4 shows the average net income per mode of selling in small scale production while Table 5 reveals if there is a significant difference of net income among the three modes of selling.

Table 4. Mean net income by modes of selling in small scale of production.

MODES OF SELLING	NO.OF FARMERS	NET INCOME (Pe)	5 P
Assorted	57	584,846	10,260.46
Classified	61	686,977	11,261.92
Green Leaves	1	64,260	12,852
TOTAL	**119**	1,336,083	34,374.37

Table S. ANOVA on the significant difference of net income generated among the modes of selling in the small scale of production.

SOURCE OF VARIATION	SUM OF SQUARES	df	MSS	F. RATIO	CRITICAL VALUE	INTERPRET-ATION
Between groups	50,182,209.85	2	25,091,104.92	3920	3.074	Nol Significant
Within 9Oups	7,680,587,181.15	120	64,004,893.18			
TOTAL	7,730,769,391.00	122				

As presented in Table 4, the difference among the average net income from a small scale production in the three modes of selling is "minimal", or "not significant" as shown in Table 5.

Thus, the mode of selling tobacco produce in small scale production has no significant effect on net income.

Table 6. Mean net income by modes of selling in the medium scale production.

MODES OF SELLING	NO. OF FARMERS	NET INCOME (P)	X (P)
Assorted	13	314,074	24,159.54
Classified	30	993,992	33,133.07
Green Leaves	2	17.890	8,945.00
TOTAL	**45**	**1,325,956**	**66,237.61**

Table 7. ANOVA on the significant difference of net income generated among the modes of selling in the medium scale production.

SOURCE OF VARIATION	SUM OF SQUARES	df	MSS	F. RATIO	CRITICAL VALUE	INTERPRETATION
Between groups	1,611,705,158.90	2	805.852,579	16.52	3.22	Highly Significant
Within groups	20,492,176,763.00	42	48,790,897			
TOTAL	22,103,881,921.00	44				

armer.

Table 6 shows that selling tobacco in the classified mode gave significantly higher (Table 7) net income with a mean P33,133 over assorted (P24,159.54) and green leaves (P8,945) selling modes.

Thus the best income can be obtained through "classified mode" in medium scale production.

Table 8 shows that the scale of production is not significant as regards to net income. Tobacco production may be small or large scale but net income depends on the level of tobacco venture management.

Table 8. T-test on the significant difference of income generated between small scale and medium scale production.

SCALE OF PRODUCTION	5	SD	VALUE OF T	TABULAR VALUE	INTERPRETATION
Small	34,374.37	117,851.16			
			1.33	1.645	Not Significant
Medium	66,237.61	189,909.69			

Conclusions

1. Majority of the tobacco farmers, during the cropping period September 2003 to April 2004, planted in less than a hectare of land located on plain areas. No farmer planted in salty area and on a land area of 2 ha and above, hence, no large scale production. Not all of the tobacco farmers owned a curing barn or "pugon". Majority of them still maintain draft animals and traditional plow. Majority borrowed capital from trading centers and only contrary to expectations, few borrowed from a cooperative which should be the partner of a farmer.

2. Income from tobacco is still good in all modes of selling for small scale production; however, it is better to sell in bulk and by classified mode in medium scale production.

3. There were no significant differences in net income in small scale production by all the modes of selling. The tobacco produce from a larger area can be better sold in bulk and by the classified mode. On the whole, there was no significant difference between small and medium scale tobacco production on income derived.

Recommendations

I. Fanners should maintain planting tobacco on a land that is suitable or not "salty". Constructing a curing barn or "pugon" is expensive, hence, it is just proper to join a fellow fanner with a curing barn or "pugon" if the scale of production is small. Large scale production requires farmers to have their own curing barn or "pugon", unless, the tobacco produce is sold as green leaves or "pakyaw". If the fanning household can not afford to buy a tractor, maintaining a draft animal and the traditional plow is better than borrowing money just to acquire a tractor. Cooperatives should analyze the reasons why the tobacco fanners prefer Trading Centers as source for loan capital instead of the Cooperative where farmers are members.

2. If the income from tobacco is no longer considered attractive by the farmers, they can shift to alternative crops like hybrid com, cassava, soya beans, mungo, etc.

3. The tobacco produced in small farms, i.e., below one hectare can be sold by any mode - assorted, classified, green leaves/"pakyaw" but the tobacco produced from larger area of land can be better sold in bulk and by the classified mode. However, the scale of production has no significant effect on net income, therefore, farmers should produce tobacco that is manageable in terms of capital and labor in order to produce good quality, good harvest, and garner better net income.

References

ABROGENA, N.R.Q. and **R.L. NASOL.** 1986. *"Resource Productivity Estimates of Flue-Cured Tobacco (Nicotiana tubacum Ly Farms in Ilocos Region."* Journal of Tobacco Science and Technology. July-September 1986 Issue. 110-111 1 (1).

BRIONES, A.M. and **S.R. OBIEN.** 1986. *"A Cron Value Index for Tobacco".* Journal of Tobacco Science and Technology. July-September 1980. 5-6 1 (1).

DOMINGO, J.S. and **L.B. GUDOY.** 1986. *"Agronomic and Some Chemical Characteristics of Neutral Flavor Tobacco Cultivars."* Journal of Tobacco Science and Technology. July-September 1986 Issue. 42 1 (1)

JOSE A.A. and **A.M. INOVEJAS.** 1986. "*Decision-Making of Flue-Cured Tobacco Farmers of Ilocos Norte on the Adoption of Recommended Technology.*" Journal of Tobacco Science and Technology. July-September 1986 Issue. 1(1)117-118.

PAGCALIWAGAN, P.C. and **R.C. MABESA.** 1986. "*Ejects of Gibberellic Acid, Fertilization* and *Seeding Rate on the Growth of Fluid-Drilled Flue-Cured Tobacco.*" Journal of Tobacco Science and Technology. July-September 1986 Issue. 1 (1) 50.

TEODORO, A.C. and **H.C. TORRES.** 1987. "*The Philippine Tobacco Industry: A Socio-Economic Review.*" Journal of Tobacco Science and Technology, April-December 1987 Issue. 1 (4) 387-388.

HYNES, ERIN. In Microsoft Encarta Reference Library 2003. C 1993-2002 Microsoft Corporation.

REPORT COMPILATION. 2002. "*Modernizing the Tobacco Industry in Region I: A Strategic Plan*". NEDA. San Fernando City,

CONSULTATION DIALOGUE. June 18. 2003. Candon City.