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STAFF PAPER SERIES

COPING WITH CHANGE IN RURAL COMMUNITIES LESSONS FROM NORWAY AND MINNESOTA

by

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DEPARTMENT OF AGRICULTURAL AND APPLIED ECONOMICS
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Prepared for meeting on the Common Market and Its Implications for the North Tronendelag Region at Stjoerdal, Norway, October 19, 1994.

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The fundamental, organizing concept in this report is the notion of a "robust rural region" and a framework for its analysis. The main idea here is to have an analytic view about (1) the potentials for development in the rural communities of a region and (2) how well they can individually and collectively tackle imminent and, at times, unforeseen setbacks.

This project was made possible by a research grant from North Troendelag Institute for Rural Research. It was carried out jointly with researchers at the two institutions--North Troendelag College and the University of Minnesota. We owe special thanks to the Department of Agricultural and Applied Economics and the Minnesota Extension Service for their support of this effort.

**COMPARISON OF DEVELOPMENT STRATEGIES
FOR TWO COUNTIES IN MINNESOTA AND
TWO MUNICIPALITIES IN NORWAY**

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I. INTRODUCTION: COMPARISONS OF DEVELOPMENT STRATEGIES FOR TWO COUNTIES IN MINNESOTA AND TWO MUNICIPALITIES IN NORWAY

During the last eight years we (North Troendelag College, Norway and University of Minnesota, Department of Agricultural and Applied Economics) have cooperated on several projects about regional development in rural communities. In 1992 we managed to take the input-output tables already constructed for two Norwegian municipalities and put it into the IMPLAN framework. This gave us the possibility to compare results for regions in different countries in the same model. Two counties in Minnesota (Clay and Polk) and two municipalities in Troendelag (Grong and Overhalla) were selected for a study.

In addition to input-output analysis a questionnaire survey was undertaken in the same regions. The main idea with the questionnaire study was to get a picture about the importance of the agricultural sector for regional development and evaluate how the farmers look at the future. In this paper a presentation of the most important results from the questionnaire are presented together with a few results from input-output calculation.

This paper is part of a larger project which in the end will have three parts:

- The questionnaire study
- The input-output analysis
- A social accounting matrix study

The fundamental idea is to develop the concept of "robust rural regions" and a framework for its analysis. The main idea here is to have an analytic view about what are the potential for development in rural regions and how well can rural regions tackle setbacks. The project has a research grant from North Troendelag Research Institute for Rural Research and will be carried out as a cooperative project between North Troendelag College, University of Minnesota, Department of Agricultural and Applied Economics and the Minnesota Extension Service.

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	population	employment	sq. mi.
Grong:	2 490	1 252	437
Overhalla:	3 792	1 898	277
Clay:	50 400	22 263	1 045
Polk:	32 500	17 077	1 970

II. THE IMPORTANCE OF THE AGRICULTURAL SECTOR AND STRUCTURAL CHANGE IN RURAL COMMUNITIES

A questionnaire study has been undertaken in two municipalities in Norway and two counties in Minnesota, USA. Some main figures from the study regions are here shown (all information is for the year 1990):

The same questionnaire was sent out to farms in all four regions. In the municipalities of Grong and Overhalla, the questionnaire was sent to farms with a 1992 production level that qualified them for a state production bonus. In the municipality of Grong there were 116 farms which qualified under this definition, of which 62 responded. This gives a response percent of 55.3 %. In the municipality of Overhalla 136 of the 180 farms responded giving us a response rate of 75.5 %. All together we received a response from 67.8 % of those who received a questionnaire.

We worked in cooperation with the Minnesota Extension Service in Clay and Polk Counties. Beginning with a list of all farms in the two regions, a list of 200 was chosen in Clay County and 300 in Polk County. The response percentages are as follows:

Clay County: 200 questionnaires, 74 responses, or 37,0 %

Polk County: 300 questionnaires, 81 responses, or 27,0 %

All information on the questionnaires was for the year 1992. In Norway, the questionnaires were sent out in the summer of 1993 and in the late fall of 1993 in Minnesota. A copy of the questionnaire is included as Attachment 1.

In the first question we asked who holds primary responsibility for operation of the farm. The possible answers were male, or male and female together. In the two Norwegian municipalities 32,3 % in Grong and 41,2 % in Overhalla answered that male and female together held joint responsibility, while the same columns for the two counties in Minnesota showed about 20 % for this answer. This indicates that the farms we surveyed in Norway are to a greater extent run by the family, as opposed to the husband holding

Table 2.1 *Primary responsibility for the operation of the farm*

	MUNICIPALITY				COUNTY			
	Grong		Overhalla		Clay		Polk	
	Count	%	Count	%	Count	%	Count	%
1. PRIMARY RESPONSIBILITY FOR OPERATION OF THE FARM								
Male and female together	20	32.3 %	56	41.2 %	13	17.6 %	18	22.2 %
Male	38	61.3 %	78	57.4 %	60	81.1 %	62	76.5 %
Female	4	6.5 %	2	1.5 %	1	1.4 %	1	1.2 %
TOTAL	62	100.0 %	136	100.0 %	74	100.0 %	81	100.0 %

primary responsibility in Minnesota. About 80 % of the Norwegian farmers in the survey have spouses, while the percentage for Minnesota is 88 %.

The average age for the Norwegian farmers in the study is 43 years, while the respective number for Clay and Polk Counties is 45 years. About half of the farmers have children under 18 years of age living on the farm in all four of the regions. In Clay and Polk Counties, about 50 % of the farmers have other relatives living on the farm (parents, grandparents or children over the age of 18), while the number for Grong and Overhalla is more than 80 %. The general impression from questions 1 - 7 points toward Norwegian farmers being to a greater degree more family oriented, both socially and economically, than their Minnesota counterparts.

Hired help is an important variable to consider when evaluating the situation on the farms. In the two Norwegian municipalities about 60 % of the farmers hire help within the framework of the state's Permanent Help Plan. In Clay and Polk Counties, only about 25 % of the farms hire permanent full-time help. About 70 % of the farms in Clay and Polk Counties hire help during harvesting, while around 38 % of the farms in Grong and Overhalla have similar seasonal hired help.

These large differences can at least be attributed to two factors. The first is that Norway has a subsidized Permanent Help Plan which makes hired help less expensive than it is in the U.S.A. Secondly a considerable number of the farmers in the Norwegian group are dairy farmers (52 %) while only 9 % of those in Minnesota are dairy farmers. The fact that the Norwegian farmers have more full-time employees plays an important role in both agricultural production and regional growth. A larger proportion of permanent hired help creates a larger income flow in the regional system and therefore agricultural production creates larger growth effects. A large proportion of permanent hired help also leads to a larger transfer of knowledge and competence.

Questions 11 through 27 give some factual information about quantities of different products produced. We make no further comments here except to

mention the interesting fact that forestry plays a significantly greater role in farm production in Norway as an extra means of income than in Minnesota.

Possibilities for increased production among farmers in the study are also mapped out. In Table 2.2 the results from question 29 are presented. The alternative "not answered" in the table means that the farmer did not produce this product. In Grong and Overhalla about 75 % of the farmers produced products from domestic animals. In this group 16 % in Grong and 19 % in Overhalla said that they did not have any potential for increased production. Clay County had 40 % and Polk County had 50 % of their farmers producing products from domestic animals and in this group 23 % in Clay and 13 % in Polk answered that they had no potential for increased production. When we compare the domestic animal producers we find that the Norwegian have a higher production potential.

With regards to crop production the situation is the opposite. Clay and Polk counties have a high proportion of their farmers involved in crop production and the potential for increased production is considerably higher than in the two Norwegian municipalities. As to forestry, the results are only of interest in Grong and Overhalla, but an increase in production seems possible to only a few. All four regions have few producers of fruits and vegetables and there is only a limited possibility for increased in production.

Table 2.2: Possibilities for increased production

	MUNICIPALITY				COUNTY			
	Grong		Overhalla		Clay		Polk	
	Count	%	Count	%	Count	%	Count	%
29 POSSIBILITIES FOR INCREASED PRODUCTION								
DOMESTIC ANIMALS								
No change	10	16.1 %	26	19.1 %	17	23.0 %	11	13.6 %
Ca 10 % increase	9	14.5 %	18	13.2 %	4	5.4 %	8	9.9 %
10-30 % increase	20	32.3 %	27	19.9 %	5	6.8 %	16	19.8 %
30-50 % increase	3	4.8 %	20	14.7 %	1	1.4 %	4	4.9 %
Over 50 % increase	3	4.8 %	9	6.6 %	3	4.1 %	2	2.5 %
Not answered	17	27.4 %	36	26.5 %	44	59.5 %	40	49.4 %
CROPS								
No change	18	29.0 %	33	24.3 %	17	23.0 %	20	24.7 %
Ca 10 % increase	6	9.7 %	8	5.9 %	12	16.2 %	18	22.2 %
10-30 % increase	3	4.8 %	15	11.0 %	21	28.4 %	21	25.9 %
30-50 % increase	1	1.6 %	5	3.7 %	9	12.2 %	4	4.9 %
Over 50 % increase	1	1.6 %	9	6.6 %	6	8.1 %	2	2.5 %
Not answered	33	51.2 %	66	48.5 %	9	12.2 %	16	19.8 %
FORESTRY								
No change	19	30.6 %	41	30.1 %	16	21.6 %	15	18.5 %
Ca 10 % increase	3	4.8 %	5	3.7 %				
10-30 % increase	3	4.8 %	5	3.7 %			1	1.2 %
30-50 % increase	1	1.6 %	4	2.9 %			1	1.2 %
Over 50 % increase	4	6.5 %	10	7.4 %				
Not answered	32	51.6 %	71	52.2 %	58	78.4 %	64	79.0 %
FRUITS AND VEGETABLES								
No change	10	16.1 %	28	20.6 %	14	18.9 %	13	16.0 %
Ca 10 % increase	4	6.5 %	4	2.9 %	3	4.1 %	1	1.2 %
10-30 % increase	1	1.6 %	11	8.1 %	1	1.4 %	3	3.7 %
30-50 % increase	1	1.6 %	2	1.5 %			2	2.5 %
Over 50 % increase	1	1.6 %	1	.7 %	1	1.4 %		
Not answered	45	72.6 %	90	66.2 %	55	74.3 %	62	76.5 %
TOTAL	62	100.0 %	136	100.0 %	74	100.0 %	81	100.0 %

Table 2.3: Change in production during the last 5 years

	MUNICIPALITY				COUNTY			
	Grong		Overhalla		Clay		Polk	
	Count	%	Count	%	Count	%	Count	%
31 CHANGES IN PRODUCTION DURING THE LAST 5 YEARS								
Increased	12	19,4 %	36	26,5 %	31	41,9 %	36	44,4 %
Reduced	19	30,6 %	21	15,4 %	8	10,8 %	15	18,5 %
No change	31	50,0 %	76	55,9 %	26	35,1 %	26	32,1 %
Not answered			3	2,2 %	9	12,2 %	4	4,9 %
TOTAL	62	100,0 %	136	100,0 %	74	100,0 %	81	100,0 %

A question regarding to changes in production which have already taken place (within the last five years) was also asked. In both Clay and Polk Counties about 43 % answered that they had an increase in production during this period. The respective numbers for Grong and Overhalla are 19 % and 26 %. A reduction in production is experienced by 10 % in Clay and 18 % in Polk County while the corresponding figures are 30 % for Grong and 15 % for Overhalla. From this it follows that the group of farmers which have seen no change in production is larger in Grong and Overhalla (about 50 %) than it is in Clay and Polk Counties (34 %). There is a considerable variation in the answers from region to region.

For those farmers who have increased production, the driving factor seems to be possibilities for increased income for the farm.

For those farmers who have reduced their volume of production, there is no single trend in the responses from the farmers in Clay and Polk Counties. In the municipalities of Grong and Overhalla, (government imposed) production limiting initiatives/quotas are given as the most important reason for reduced production. Otherwise it is difficult to find a pattern among the possible answers.

Further, it was asked if the farmers have considered, planned or tried out new production activities on the farm. In Grong and Overhalla about 65 % answered that they had not considered, tried out or planned new production activities. The same numbers for Clay and Polk Counties are about 30 %. In Clay and Polk Counties at least 40 % have tried out some new production activity, while between 20 % - 30 % have considered/planned such activities. The numbers for Grong and Overhalla show that only 9 % of those asked have begun trying out a project, while 25 % - 30 % have either considered or planned a project. When we look at which form of production was most tried, nearly all in Clay and Polk Counties answered farming. In Grong and Overhalla the answers were spread out over several alternatives with farming and service/tourism being the most common. Even though there were only a

few who have planned or tried out new production activities in Grong and Overhalla, there are more in these two municipalities who have chosen industry and service as possible new areas than what we find in Clay and Polk Counties.

With regards to those who have planned but not started a project, most farmers in Grong and Overhalla give as reason for waiting either that they don't have time to combine the project with farming activities, or that they don't have sufficient economic resources for development of the product. The deciding factor in Clay and Polk Counties for not beginning a planned project is clearly one of economics (non-economic resource/great economic risk).

The conclusion here is that the farmers in Minnesota are clearly the most active to start up production activities and they choose the agricultural sector. One reason for this is that the potential for profitable production is better in Minnesota compared to Norway where there is a highly subsidized production for most of the agricultural products. In addition there is volume regulations such as quotas and two-price systems, and the result of this is barriers to entry in production of most agricultural products in Norway.

When asked how the farms operation would continue after the present farmers discontinue operation of the farm, a considerable proportion (80 % - 85 %) answered that the children or other relatives would most likely take over in Grong and Overhalla. The general trend of the responses from Clay and Polk Counties was different. 53 % in Clay County and 40 % in Polk County indicated that their children or other relatives would most likely take over. About 18 % in Grong and Overhalla figured that the farm would be sold, while 19 % in Clay and 30 % in Polk thought that the land would be used as additional land for neighboring farms. The results show that the Norwegian farmers to a higher degree have a "stayer" attitude than their Minnesota counterparts. One explaining factor is that the possibilities in nearby labor markets are better in the Minnesota counties. Another factor is tradition and cultural attitudes that may influence the Norwegian farmers to be more attached to the farm.

Table 2.4: The possibility for new activities

	MUNICIPALITY				COUNTY			
	Grong		Overhalla		Clay		Polk	
	Count	%	Count	%	Count	%	Count	%
34. HAVE YOU CONSIDERED, PLANNED OR TRIED OUT NEW PRODUCTION ACTIVITIES?								
no	41	66.1 %	86	63.2 %	20	27.0 %	27	33.3 %
yes, considered	11	17.7 %	33	24.3 %	13	17.6 %	15	18.5 %
yes, planned	3	4.8 %	5	3.7 %	7	9.5 %	4	4.9 %
yes, have tested	6	9.7 %	11	8.1 %	30	40.5 %	34	42.0 %
not answered	1	1.6 %	1	.7 %	4	5.4 %	1	1.2 %
35. INTO WHICH CATEGORY WOULD THIS ACTIVITY FALL?								
farming	3	4.8 %	25	18.4 %	48	64.9 %	50	61.7 %
forestry	4	6.5 %	3	2.2 %				
fishing			2	1.5 %			3	3.7 %
industry	1	1.6 %	2	1.5 %				
tourism	9	14.5 %	13	9.6 %				
service/other than tourism	3	4.8 %	4	2.9 %	1	1.4 %		
not answered	42	67.7 %	87	64.0 %	25	33.8 %	28	34.6 %
36. WHY DID YOU NOT START?								
not economically feasible to develop product	4	6.5 %	12	8.8 %	9	12.2 %	6	7.4 %
large economic risk involved	1	1.6 %	4	2.9 %	12	16.2 %	14	17.3 %
not enough time to combine with the agricultural activities	9	14.5 %	16	11.8 %	18	24.3 %	23	28.4 %
other reasons	3	4.8 %	14	10.3 %	1	1.4 %	8	9.9 %
not answered	45	72.6 %	90	66.2 %	34	45.9 %	30	37.0 %
37. HOW DO YOU THINK OPERATION OF THE FARM WILL CONTINUE?								
children will take over	45	72.6 %	103	75.7 %	36	48.6 %	29	35.8 %
relatives will take over	4	6.5 %	13	9.6 %	3	4.1 %	3	3.7 %
most likely the farm will be sold	2	3.2 %	3	2.2 %	13	17.6 %	16	19.8 %
most likely the farm will be combined with a neighboring farm	4	6.5 %	4	2.9 %	14	18.9 %	24	29.6 %
the farm will not be in operation	2	3.2 %	2	1.5 %	2	2.7 %	5	6.2 %
other possibilities	4	6.5 %	7	5.1 %	4	5.4 %	3	3.7 %
not answered	1	1.6 %	4	2.9 %	2	2.7 %	1	1.2 %
TOTAL	62	100.0 %	136	100.0 %	74	100.0 %	81	100.0 %

Norwegian farmers to a higher degree have a "stayer" attitude than their Minnesota counterparts. One explaining factor is that the possibilities in nearby labor markets are better in the Minnesota counties. Another factor is tradition and cultural attitudes that may influence the Norwegian farmers to be more attached to the farm.

In the municipalities of Grong and Overhalla, nearly 90 % of those asked, thought that the family would remain living on the farm even though they had discontinued operation of the farm. In Clay and Polk Counties, a somewhat larger proportion of the farmers felt that they would move out of the county if they had to quit farming, respectively 22 % and 12 %. This would be more likely in Clay County since there is a larger township nearby.

Table 2.5: *Alternatives to farming*

	MUNICIPALITY				COUNTY			
	Grong		Overhalla		Clay		Polk	
	Count	%	Count	%	Count	%	Count	%
38. IF YOU HAD TO QUIT THINK FARMING, WHERE DO YOU WOULD LIVE?								
remain on the farm	55	88,7 %	122	89,7 %	54	73,0 %	70	86,4 %
leave the community/county	4	6,5 %	8	5,9 %	16	21,6 %	10	12,3 %
not answered	3	4,8 %	6	4,4 %	4	5,4 %	1	1,2 %
39. EVEN WITHOUT THE INCOME FROM FARMING, THE HOUSEHOLD?								
enough income through other jobs	15	24,2 %	32	23,5 %	14	18,9 %	22	27,2 %
find another job - daily commute	23	37,1 %	52	38,2 %	31	41,9 %	25	30,9 %
find another job - weekly commute	2	3,2 %	3	2,2 %			2	2,5 %
assumes enough income from unemployment compensation/and/or other social service programs	2	3,2 %	18	13,2 %	1	1,4 %	6	7,4 %
will have enough retirement pension	14	22,6 %	12	8,8 %	12	16,2 %	15	18,5 %
not answered	6	9,7 %	19	14,0 %	16	21,6 %	11	13,6 %
40. DOES THE HOUSEHOLD (FOR THE MOMENT) HAVE A REALISTIC ALTERNATIVE COMMUNITY TO MOVE TO?								
yes	3	4,8 %	6	4,4 %	22	29,7 %	15	18,5 %
no	50	80,6 %	124	91,2 %	43	58,1 %	57	70,4 %
not answered	9	14,5 %	6	4,4 %	9	12,2 %	9	11,1 %
41. LARGE INVESTMENTS MADE OVER THE LAST 5 YEARS (MORE THAN \$7000)								
no	27	43,5 %	50	36,8 %	46	62,2 %	47	58,0 %
yes, once	25	40,3 %	47	34,6 %	14	18,9 %	15	18,5 %
yes, more than one	8	12,9 %	37	27,2 %	14	18,9 %	16	19,8 %
not answered	2	3,2 %	2	1,5 %			3	3,7 %
TOTAL	62	100,0 %	136	100,0 %	74	100,0 %	81	100,0 %

Continuing, in this context we asked if the farmer had made any larger investments in the last 5 years. An investment was considered "larger" if it was greater than or equal to NOK 50,000, or the approximate equivalent USD 7,000. About 60 % of the farmers in Grong and Overhalla have made one or more such investments within the last few years, while in Clay and Polk Counties 40 % said that they had.

With regards to the Norwegian farmers, about 15 years is the average length of time since the farmer took over operation of the farm. In Minnesota the average is 20 years.

III. SOME CALCULATIONS BASED ON INPUT-OUTPUT

Tables 3.1 to 3.4 show some of the main figures for the four regions in the study. All data and calculations for Clay and Polk County in this chapter are

taken from the University of Minnesota Micro IMPLAN regional modeling system (Alward et al, 1989). The Norwegian data are based on Norwegian National Accounts at the regional (county) level. Input-output models have been constructed for Grong and Overhalla municipalities and the total database for Grong has been transferred into the Micro IMPLAN system. The type III output multipliers in the tables are all Micro IMPLAN calculations.

Clay and Polk County differs in many ways. The broad view is that the Polk County economy is a clearly more resource based economy and thus more dependent on what is happening in agriculture and mining. Clay County has Fargo/Moorhead as a center concentrating in tertiary (Transport etc., Trade, F.I.R.E., Agg. Services and Government) sector production. The multipliers in the tertiary sectors are generally higher in Clay than in Polk indicating smaller import shares and a broader economic base in the production of these goods and services.

One can question how much can come out of a comparison of the two Minnesota counties with two Norwegian municipalities that are less than ten times the size in population and production. When we look at the two sets of data from the point of view of the relative importance of the agricultural sector and the importance of the resource based economy in general, some interesting points can be picked up.

Grong municipality has, like Polk County, about 20 % of the employment in the agricultural sector, but the multiplier is much smaller in Grong. The main reason for this is the import share to agriculture. Grong has, on a more desegregated sector level (for example a 2-digit level), many more cells with zero value than Polk in the input-output table. Where there are linkages in Grong, they can easily be seen and interpreted. Grong has some manufacturing plants that utilizes products from the agricultural sector, which gives a multiplier of about the same size as in Polk and Clay. The second factor is that Grong has activities in the production of hydroelectric power which accounts for the relative high multiplier here.

We combine some of the results from the questionnaire with what we see from the multiplier calculation and one example we discuss here:

Agriculture will face a reduction in prices: This will happen if Norway enter the European Union and it may happen in Minnesota because of increased competition.

The farmers are more likely to diversify into producing other agricultural products in Polk and Clay than in the Norwegian municipalities. If this diversification is not possible, then the Polk and Clay farmers are more likely to leave the countryside. The questionnaire results show that the Norwegian

farmers are to a higher degree "stayers" in the rural communities. In such a situation Clay and Polk County will be hit harder (in the short run) because of the multiplier effects. On the other hand the long time effects can be damaging in the Norwegian municipalities, because the communities can reach the threshold level where it can be problematic to maintain a reasonable service level for the population. This discussion focus on the question of diversification in the agricultural sector. That is also for the moment a main question in the EU agricultural policy.

Table 2.6: Clay County 1990

	TOTAL EMPLOYMENT	TOTAL INDUSTRY OUTLAYS	OUTPUT MULT. TYPE III
Agg. Agriculture etc.	1983	89.9891	1.9594
Agg. Mining	14	7.8815	1.0726
Agg. Construction	1348	103.1313	1.5488
Agg. Manufacturing	1274	281.7672	1.4580
Agg. Transp., Comm. & Ut.	812	55.0161	1.6121
Agg. Trade	5170	127.0745	2.1426
Agg. F. I. R. E.	1167	147.3105	1.3897
Agg. Services	6199	206.2467	2.0349
Agg. Government	4296	127.6829	1.8889
TOTAL	22263	1146.7540	

Table 2.7: Polk County 1990

	TOTAL EMPLOYMENT	TOTAL INDUSTRY OUTLAYS	OUTPUT MULT. TYPE III
Agg. Agriculture etc.	3416	144.2741	1.8431
Agg. Mining	43	91.5904	1.1913
Agg. Construction	799	60.5929	1.5483
Agg. Manufacturing	1326	281.0616	1.5132
Agg. Transp., Comm. & Ut.	495	45.5686	1.3872
Agg. Trade	3265	88.6300	1.8339
Agg. F. I. R. E.	969	98.2860	1.3876
Agg. Services	4092	128.7275	1.8544
Agg. Government	2672	74.1688	1.7851
TOTAL	17077	1013.3610	

Table 2.8: Grong municipality 1990

	TOTAL EMPLOYMENT (MAN-YEARS)	TOTAL INDUSTRY OUTLAYS (MILL. NOK)	OUTPUT MULT. TYPE III
Agg. Agriculture etc.	202	63.7	1.29
Agg. Mining	0	0.0	0.00
Agg. Construction	112	51.0	1.16
Agg. Manufacturing	50	42.5	1.57
Agg. Transp., Comm. & Ut.	190	91.7	1.44
Agg. Trade	87	12.3	1.25
Agg. F. I. R. E.	20	15.0	1.13
Agg. Services	96	33.4	1.28
Agg. Government	227	41.3	1.30
TOTAL	984	350.9	

Table 2.9: Overhalla municipality 1990

	TOTAL EMPLOYMENT (MAN-YEARS)	TOTAL INDUSTRY OUTLAYS (MILL. NOK)
Agg. Agriculture etc.	354	111.9
Agg. Mining	13	6.1
Agg. Construction	136	61.8
Agg. Manufacturing	239	186.8
Agg. Transp., Comm. & Ut.	77	31.9
Agg. Trade	229	30.1
Agg. F. I. R. E.	30	24.1
Agg. Services	146	53.3
Agg. Government	522	92.7
TOTAL	1746	598.7

COPING WITH OPEN MARKETS --LESSONS FROM RURAL MINNESOTA

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I. OVERVIEW: COPING WITH OPEN MARKETS--LESSONS FROM RURAL MINNESOTA

Central Norway is not alone in coping with open markets. Rural Minnesota has its problems, too. A Minnesota Extension Service study team prepared a report called "NAFTA and Clay County" to help in understanding the threats to Clay County businesses stemming from the open markets created by NAFTA¹. The Clay County experience has much in common with central Norway and other rural areas in Scandinavia threatened by entry into the European Union and its Common Market.

Extension educators in Clay County - a west Minnesota county bordering North Dakota in the Red River Valley - asked for this study. They wanted to be ahead of the storm - the NAFTA storm. They formed a study team of extension educators and researchers from the University of Minnesota Department of Agricultural and Applied Economics. This team conducted an intensive literature review focusing on the specific provisions of NAFTA, the underlying production conditions for the competing crops in Mexico and the U.S., and the changing market demands for the products produced from these crops, including estimators of the product price changes and exports associated with the changes in production. The literature review provided the data inputs for the computer models that estimated the effects on Clay County producers of the projected changes in U.S. sugar and wheat exports. The study team then put together the report focusing on NAFTA's impact on the principal income-generating sectors of the Clay County economy - sugar beet production and processing and, also, wheat production. They gave the parties to the controversy locally a chance to review the report and to provide the team with responses to its content.

The second part of this presentation is about building bridges to new markets, which the revitalizing of rural regions involves in large part. Rural regions with a long agricultural history usually have many small businesses. In the U.S.A., small businesses account for most of the job growth². Large companies often buy the expanding small businesses as a way of

¹ NAFTA stands for the North American Free Trade Agreement. It provides for the gradual elimination of all restraints on trade between the U.S.A. and its two neighbors - Canada and Mexico. This includes all farm and export subsidies, import quotas, and other forms of government assistance that result in an unfair trade advantage of one country over another.

² Birch found that small businesses were the real generators of new jobs - a theme picked up by the U.S. Small Business Administration in its efforts to support the growth of private entrepreneurship and assist small and medium size businesses (Birch, 1978; Bingham and Mier, 1993)

increasing their market shares. This happens quite often because of the advantages that large companies have in financing expansion, coupled with the difficulties faced by small businesses in acquiring capital financing.

Small businesses must work closely with their markets and customers to produce salable products that provide a reasonable return to the producer. They must find ways to make the most of their "linkage" with local customers, but, also with more distant customers that have many sources of supply for the inputs that go into the products they produce. Small businesses must also seek ways to work closely with the regional schools and colleges to keep abreast of changing skill requirements in the workplace. Given today's economy therefore, building market access bridges for small businesses in rural regions is no easy task.

I. COPING WITH NAFTA - LESSONS FROM RURAL MINNESOTA

The Clay County experience in coping with NAFTA provides a case study of the varied local responses to a perceived threat. The potential stakes are high. They deal with the economic well-being and viability of a dominant sector of a highly specialized and prosperous local economy based on agriculture.

1. Clay County Economy

In 1990, Clay County businesses and governments produced \$1 billion of goods and services. Total population was more than 50 thousand. The workforce was more than 22 thousand with more than \$420 million earned in wages, salaries and self-employed income. Exports totaled to more than \$445 million. The county economy added nearly \$600 million to Minnesota's gross state product.

We compare Clay County with North Troendelag County in total population, employment and exports in Table 1.1. In 1990, North Troendelag's population was 127 thousand, more than two and one-half times the Clay County population. Its employment was nearly two and one-half times as large. The Clay County employment represents jobs rather than persons employed - the jobs per 1,000 population being larger, in part because of multiple job-holdings, many available jobs for both genders, and some commuting to Clay County jobs from outside the county.

Table 1.1: Total employment and export share, North Troendelag and Clay County, MN

Title	SIC Code	North Troendelag Total Employment		Clay County 1990	Proportion of Total North - Clay		Export Share, 1990	
		1980	1990		North Troendelag	County	North Troende- lag	Clay County
		(no.)	(no.)	(no.)	(pct.)	(pct.)	(pct.)	(pct.)
Total Employment		48,175	50,389	22,263	100.0	100.0	100.0	100.0
Agriculture	01-07	7,874	6,275	1,983	12.4	8.9	3.4	14.5
Mining, forestry, fisheries	08-14	575	1,668	14	3.3	0.1	0.8	1.6
Construction	15-17	4,566	4,107	1,348	8.2	6.1	3.3	0.0
Manufacturing	20-39	9,713	8,681	1,274	17.2	5.7	56.4	56.5
Services-producing, total	40-89	25,447	29,658	17,644	58.9	79.3	32.8	27.2

Source: University of Minnesota IMPLAN System; Maki and Western, "Revitalizing a Rural Region's Economic Base."

Comparing the two areas, we find that the distribution of employment differs with North Troendelag having more than Clay County in farming and manufacturing and less in services-producing industries - transportation, communications, and public utilities, retail and wholesale trade, finance, insurance and real estate and private services. Dependence on exports, however, is much the same in the two areas, except for the slightly smaller percentage of farm products exported from North Troendelag than Clay County (because local residents and processing plants utilize more of the total farm production locally in North Troendelag than in Clay County). The services-producing sector generates exports, also because of the marketing services provided by local transportation and other marketing businesses that accrue to the commodity exports as they move to their final destinations.

The export-producing sector of Clay County is almost entirely agriculture and agribusiness. In 1990, this sector accounted for nearly 30 percent of the county's total industry output and 70 percent of its total exports. Sugar beet production and beet sugar manufacturing are the largest contributors to these exports that represent the county's economic base - the activities that bring the "first dollars" into the county. Any threat to a sector this important to the local economy becomes a vital concern of its workers and families.

II. NAFTA - a Clay County Perspective

Several important businesses and many individuals in Clay County view NAFTA as a double-edged sword. There is promise of expanded markets and increased economic opportunity for some U.S. industries and

workers. But economics like politics is local when it really counts. There was a strongly held belief in Clay county, that NAFTA will eventually destroy a mainstay of the local economy - the beet sugar industry. Our study shows, however, that these fears were ill-founded, that is, if you looked at only the short-run, say up to five years. This study concluded that in the short-run an increase in Mexican sugar exports to the U.S. that would force a sharp drop in sugar prices was unlikely. It provided us with a series of arguments as follows:

- Sugar consumption is increasing faster than its production in Mexico. (This was true in 1993 and 1994, but not in 1995.)
- Sugar production costs in Mexico are nearly twice those in the U.S. (This again was true in 1993 and 1994, but not 1995. With the peso worth only one-half of what it was in the previous two years, production costs have dropped from about 15 cents per pound to less than 10 cents--a level that is much more competitive with U.S. sugar production.)
- NAFTA identified sugar as a "sensitive" product with provisions to phase out Tariff Rate Quotas against Mexico sugar over a 15-year period. Furthermore, Tariff Rate Quotas on sugar will be maintained, meaning that the amount of sugar Mexico exports to the U.S. would automatically decrease the amount of sugar other countries are allowed to ship to the U.S.

In the short-run, the more likely possibility is an increase in sugar exports from Clay County. (This statement also was true in 1993 and 1994, but not necessarily under the current market conditions) This would result when Mexico reduces its 55 percent tariff on imported sugar while its sugar consumption continues to increase.

Long-run effects, those beyond NAFTA Year 15, are the ones that worry Clay County sugar producers. For Mexico to become a net surplus producer, however, the Mexican sugar-producing and sugar-using industries must extensively restructure by Year 15.

- Mexico's beverage industry must switch from sugar to high fructose corn syrup - a decision that Pepsi and Coca-Cola would probably not make because of its high costs, both direct and indirect. (However, as of May 1995, both Pepsi and Coca-Cola have plans and arrangements for developing alternative sugar supply sources in Mexico.)

- Mexico's sugar producing area must increase by 20 percent, from 530,000 hectares to 620,000 hectares.
- Mexico's government must continue efforts to privatize its previously nationalized sugar industry - a very difficult step that would force closure of some mills, but allow the remaining mills to become more competitive. (Privatization of the formerly nationalized sugar industry is another important change since 1993 that is changing the competitive position of Mexico's sugar industry.)
- Transportation and infrastructure problems, including electricity for pumping water through irrigation systems, must be solved, along with land tenure and long-term capital financing problems, that would allow Mexico to produce 800,000 metric tons of surplus raw or semi-refined sugar. (These issues are now being addressed along with industry privatization.)

Even if Mexico were able to produce 800,000 metric tons of surplus sugar by 2008, built-in provisions in NAFTA would soften the blow on the Clay County beet sugar industry. For example, if all restrictions on Mexico's exports of its surplus sugar were eliminated by Year 15, Tariff Rate Quotas on sugar producers outside the U.S. would be in place, meaning that the imports of sugar from other countries could be adjusted down to make up for the new Mexican sugar. This practice may be challenged, of course, by countries that experience a reduction in their quota.

The study team concluded (at the time this report was completed in 1994) that the Clay County beet sugar industry had the least to fear of any segment of the sugar industry. Hawaii and Louisiana producers would be among the first to fail because of their high production costs. The Clay County beet sugar industry, with its historically low production costs and superior access to the large midwestern markets, would thus stand the best chance of survival beyond Year 15 of NAFTA.

The study findings show that NAFTA makes Clay County wheat producers slightly better off than they are now. Over the first ten years, Mexico barriers to U.S. wheat through state trading, import licensing and tariffs will be eliminated. Projected U.S. wheat exports to Mexico thus show an increase from 740,000 metric tons to 1.5 million metric tons, with 20 percent of the increase being attributed to NAFTA.

Wheat consumption per person per year in Mexico is small compared to the U.S. - 52 kg. compared with 78 kg. As personal income and population increase, however, and the price of wheat falls, its consumption will increase. This still would account for only a small

portion of total U.S. wheat exports. Moreover, because of a transportation advantage, the Hard Red Winter wheat producers in the southern plains region of the U.S. would be the greatest benefactors. Wheat shipped from the southern plains region to Mexico would reduce shipments to other markets, thus increasing their demand for Clay County wheat. This increase would be small compared with total production.

To present these findings, the study team prepared three scenarios of alternative industry futures in which three sets of conditions are postulated that lead to three different results for the Clay County beet sugar industry. In the *worst case scenario*, Mexican sugar producers would reach a net surplus of 800,000 metric tons by NAFTA Year 15. Mexico sugar producers would ship this surplus to the U.S. The U.S. could then adjust its Tariff Rate Quotas for other countries to make up for the 800,000 metric tons of new sugar. This is, however, in violation of GATT rules. The U.S. would be forced to amend the sugar import Tariff Rate Quotas and take the additional foreign sugar to the amount of 1.25 million metric tons. The additional sugar would not be absorbed by the combined U.S., Canada and Mexico sugar markets. Therefore, the U.S. Commodity Credit Corporation would be required to buy U.S. sugar to prevent prices from falling below the market stabilizing price. This, of course, would interfere with the "no cost" provision of the sugar legislation. The U.S. sugar industry would now lack its former government protection and support, thus resulting in an eventual decline in the price of sugar that the Clay County beet sugar industry could no longer absorb. One spokesperson for the sugar industry claimed that the results portrayed in this scenario "would expose producers and consumers to large and unpredictable swings in price. One very possible outcome would be the end of the sugar industry in the Red River Valley."

The study team also presented a *medium scenario* and a *best case scenario*. They similarly listed a set of conditions accompanying a corresponding set of results for the industry. The *medium scenario*, for example, shows Mexican sugar producers reaching a net surplus of 10,000 metric tons of raw and semi-refined sugar by Year 15. U.S. sugar mills continue to supply Mexico with refined sugar. This small amount of additional sugar imports into the U.S. would have no measurable net effect, assuming that Tariff Rate Quotas of other foreign imports were adjusted downward, domestic sugar consumption were to continue expanding, and high cost production areas in the U.S. were to continue dropping out of sugar production. The *best case scenario* presents, of course, an even more optimistic set of market prospects for the Clay County beet sugar industry. The scenario approach thus gave the study team a way of probing more deeply into the concerns of sugar producers

on the one hand, and on the other, the possibilities of negotiated solutions within the context of NAFTA provisions.

III. REVITALIZING A RURAL REGION'S ECONOMIC BASE - LESSONS FOR NORTH TROENDELAK

The final chapter in the Clay County-NAFTA saga is yet to be written. We can say, however, that the NAFTA side agreement on sugar put the beet sugar industry in the neutral camp that, in turn, gave President Clinton additional votes for the U.S. Congress to pass the North American Free Trade Agreement by a very close margin. A majority of Clinton's own party opposed the agreement. The negotiated agreement is certainly not everything that the industry had wanted. It nonetheless gives the Clay County economy a much appreciated respite from having the sugar markets immediately adjust to the new uncertainties. These undoubtedly would have had adverse long-term effects on Clay County sugar beet growers and processors.

1. Negotiating Adjustments to Prospective Market Changes

Before the fateful day arrives when the last sugar beet grower hauls the last load of sugar beets to a nearby processing plant, every conceivable effort will have been explored to keep the industry competitive. The Red River Valley beet sugar growers and processors are still in a stronger financial position than any other segment of the industry. The competition they face from cane sugar and corn fructose, however, is fierce and it will grow as NAFTA gradually reduces import quotas on sugar. Local communities are well advised, therefore, to look for new sources of income-generating exports to replace the huge losses that would occur with the demise of the beet sugar industry.

Clay County has been mentioned as a place to locate one or more value-added agricultural processing facilities. A corn fructose manufacturing was almost built, but high taxes and high employee compensation costs, coupled with its peripheral location to the major corn-producing areas, finally scared away its promoters to another location. A second possibility is an ethanol plant. Again, its peripheral location and high production costs, coupled this time with the uncertainty of state and government subsidies, makes this possibility also an unlikely one. What remains is full-time or part-time employment in manufacturing, marketing and the private services industries. Because of the recent rapid growth of these industries in west Minnesota, this area actually faces a housing shortage.

If housing were adequate, it would most likely face a skilled-worker shortage.

The remarkable news about rural Minnesota is the growth of its manufacturing sector. This is at a time when manufacturing is declining in total employment elsewhere in the country. What contributes to this turnaround for rural Minnesota is the high cost of doing business in the metropolitan areas. This includes the additional costs of labor, rents, taxes, pollution abatement and industry regulations - costs that are lower in the rural areas. These are negatives for existing manufacturing plants in metropolitan areas that become positives for the rural areas in Minnesota. In addition, rural Minnesota has some positives - a skilled and productive workforce, a strong work ethic, abundant recreational amenities, a strong commitment to being active participants in the emerging knowledge-driven, learning society, and access to regional markets by interstate highway, rail and air, especially for the rural areas within 75 to 100 miles of the Minneapolis and St. Paul - one of the 29 U.S. metropolitan centers that serves also as an air transportation node in the global communication and transportation networks.

2. Finding a Competitive Advantage

The Minnesota Extension Service and their extension educators throughout the State, with the support of applied researchers in agricultural economics, dairy and poultry sciences, food technology, and other fields of research and teaching at the University of Minnesota, assist rural communities in finding their competitive advantage as they cope with changing market conditions. This, again, is no easy task and there is no one way of doing it. Efforts in accomplishing this task point to the importance of understanding clearly the significance of:

Economic and demographic trends - identifying present and prospective export-producing businesses.

- Community economic base - delineating, differentiating and redefining the functional economic community³, assessing competitive position of local businesses in export markets; business linkages with other businesses, industries, and areas; role of tourism.

³ Bendavid-Val (1992), Maki (1991), and Maki and Westernen (1992) provide guidelines for identifying and assessing the community base and its contribution to local and regional economic viability and well-being

- Community-based economic development strategy - capacity-building and networking; organizing community-based economic development corporations or cooperatives⁴; establishing accountability for the management of the development corporations and/or cooperatives.

Clay County is part of the Fargo-Moorhead Labor Market Area (LMA) - the *functional economic community* - a daily commuting area that straddles the Red River with counties in both North Dakota and Minnesota⁵. The two-county Fargo-Moorhead Metropolitan Statistical Area listed by the U.S. Bureau of the Census has a total population of more than 100 thousand. It is the most densely populated part of the LMA. Markets for the export-producing businesses in the Fargo-Moorhead LMA lie outside the LMA boundaries, which may change in size, of course, from one year to the next. Thus, the destination for some of the exports from a single county is another county in the same LMA. Total exports for the LMA are, therefore, less than the sum of the individual county exports. This difference represents the intra-area, county-to-county, trade. This sort of local trading provides opportunities for small businesses to acquire the production and marketing know-how for succeeding in larger and more distant markets. We call the process *import replacement* or *import substitution*, depending upon the local market destination, whether intermediate (that is, semi-finished products) or final sales. It eventually may become a form of *export expansion*.

⁴ Hatton emphasizes corporate profits as a measure of corporate success that is the essence of a viable community economy. "Jobs result from sustainable development, that is, businesses which can pay their own way over the short- and long-term. Businesses cannot be sustained if they do not make a profit. They cannot support self-reliance if they do not make a profit." Hatton suggests that "Jobs, in economic development terms, can be seen as a short-term benefit. Profit is a long-term benefit, without which other benefits (including jobs) cannot be delivered." Starting with an assessment of the economic base of a neighborhood is the first step towards its revitalization. Community-based economic development is the core philosophy of the Center for Community Enterprise (CCE) in Vancouver, British Columbia, and the Development Management Institute (DMI) in Prince Edward, Saskatchewan (Hatton and Lewis, 1992). They incorporated in Canada for the purpose of organizing successful community ventures through capacity-building and networking. The Westcoast Development Group serves as the project arm for the CCE. It publishes the Westcoast Series on Community Economic Development and sponsors, with DMI, workshops on managing community economic development projects. The Development Management Institute serves as an education and training resource for the community economic development corporations (CEDCs). The CEDC is "a ubiquitous, self-sustaining organization that can organize and marshal resources, and stimulate revenue generating business and other development institutions in a coordinated fashion," according to Mary Williams, one of the principals in DMI. The Institute helps organize the CEDCs, with initial funding from the Canadian government.

⁵ Maki and Reynolds (1994) provide the results of several of their studies on the role of the functional economic community in regional economic development with an emphasis on small business formation and development.

Study of Clay County economic and demographic trends without assessing its changing status and role in the larger LMA, is likely to seriously underestimate or overestimate these trends. What they show for the Fargo-Moorhead LMA are the changing patterns of business investment and growth from one sector to the next, patterns that also vary among individual counties. Identifying future growth sectors with profitable investment prospects is difficult, even with an abundance of decision information for the individual investor. Not taking into account the overall LMA growth prospects means, of course, that the chances of making profitable investments are extremely low.

Study of Clay County as part of only the Fargo-Moorhead LMA will not show the important business linkages, present and potential, with the larger metropolitan core area - the Minneapolis - St. Paul LMA - 200 miles to the southeast. Clay County manufacturing businesses may extend their export markets beyond the local LMA, currently and in the future. They may serve as production input suppliers, for example, to manufacturing businesses in the Minneapolis-St. Paul LMA. They may even have several intermediate product outlets in the Minneapolis-St. Paul market. Alternatively, they may ship finished products to consumer markets that have expanded beyond the local LMA. Individual business employees exchange ideas and suggestions with one another for improving product delivery and even the product itself. This is a common way of process and product innovation that helps both sides of the market to remain competitive. Thus, in many ways, not only in manufacturing, the Fargo-Moorhead economy is closely linked to the Minneapolis-St. Paul economy.

What makes businesses in some rural areas more attractive than others as profitable investment opportunities? One answer: A forward-looking technical college with up-to-date courses and a faculty geared to the technical education and training needs of local industry. Recent studies show that educational attainment correlates with type of business start-ups, whether export-producing or catering to a limited local market. The export-producing businesses correlate with the greater educational attainment. Small businesses, particularly, depend on local educational institutions for their skilled workers. Large companies can afford the full cost of training, even with the risk of losing the newly-trained workers, once they have completed this training. Small companies, however, lack the resources to underwrite these sorts of high risk, but important, activities.

Still missing is readily accessible information on the local economic base and problems and prospects for future growth and development. Easy

access to such regional information would help anticipate changes in the community's economic base, target community services, build core competencies, modify legacy systems, and make policy choices - all requirements for an effective regional policy in the 1990s.

One LMA's economic base differs from another for many reasons. One LMA, like Fargo-Moorhead, may specialize in agriculture and related industry. Another, like Minneapolis-St. Paul, may specialize in technology-intensive manufacturing and high-order services. A multiplicity of criteria would apply to these two types of areas in an assessment of their economic base. Among such criteria are the *risks and costs* of production and the *productivity and flexibility* of resource use in production (Maki and Western, 1992).

Risk is high in an area with extreme specialization of economic activity.

It correlates with both early and later stages of a product cycle. Introduction of a new product incurs costs of investing in its development and marketing. Cost recovery depends on the market success of the new product. An old product, on the other hand, is in danger of losing its market to competing products on a quality or cost basis. When these are export-producing businesses, adverse multiplier effects hurt the entire community. In either case, high risk businesses face reduced prospects for business loans and favorable credit terms from suppliers. Rural regions, removed from access to large consumer and producer markets, are singularly dependent on farming, fishing, and mining. They lack prospects for diversifying their local economic base. In such cases, local credit sources soon disappear while distant sources heavily discount their high-risk loans.

- *Costs* increase with risks that are heavily discounted. On the other hand, high wages and extreme regulatory and environmental requirements in metropolitan areas add to the costs of doing business. Many rural areas offer cost advantages because of low site costs--land and buildings, labor, environmental regulations and congestion. Other costs often are less in rural than metropolitan areas. These would include business and personal services and housing.
- *Productivity* of resource usually use correlates with investment. It is high where investment per worker is high, which generally is high in metropolitan areas and low in rural areas. Capital substitutes for labor, which increases overall resource productivity. Despite an initial disadvantage in low investment per worker, residents in rural areas have opportunities for reducing the disadvantages by wisely directed investment in education and training that closely tracks a changing job

market. A strong work ethic and supportive attitudes and values, when coupled with new and superior skill development, make some rural areas superior places for new business formation, branch plant location, and expansion of existing businesses.

- *Flexibility* in work practices and organization is important for successful business enterprise facing increasingly stiff competition in both producer and consumer markets. Flexibility of access to input supply sources and procurement practices is important, too. In both cases, flexibility is a function of the learning processes in an organization and the ability to gauge the likely outcomes of improved learning capacities. Successful business organizations have the robustness and capacity for adaptation to changing market conditions and new production technologies. They are successful learning organizations.

These four criteria - *risk and costs*, *productivity and flexibility* - help to further differentiate vulnerable from less vulnerable rural areas. Unanticipated changes in export markets and income flows are endemic with vulnerable rural areas and natural resource-based economies. Strong linkages with core area businesses help reduce a rural area's vulnerability to unanticipated economic change by reducing the *risks and costs* faced by individual businesses. The decentralized markets of economic theory function well because of the variety of contractual arrangement between buyers and sellers. Recurring negotiation sustains and improves these contracts. Core area manufacturing businesses, for example, initiate numerous contractual arrangements with businesses in rural areas to produce their product in peak periods or in periods of tight labor supply. They may initiate other contractual arrangements for integrating rural input supply sources into their production scheduling through professional and technical training programs in supply management, inventory control and production scheduling.

Vulnerable rural areas learn from viable rural areas when an assessment of the differences between the two focuses on *productivity and flexibility*. Businesses forming, locating, or expanding in transitional rural areas adjacent to the metropolitan core area have an important advantage over those in the more distant labor market areas. They have proximity to world class information systems and producer services for adapting rural area businesses to changing production technologies and global markets. In these areas, business volatility - changes in total employment due to births and deaths, expansions and contractions of business enterprises - correlates with economic growth.

Finally, *capacity-building*, as a purpose of community-based economic development strategy, refers to the successful application and integration of the means of control and foresight - good management coupled with realistic anticipations about the future - in both private and public management⁶. From an economic perspective, a strategy for capacity-building must eventually focus on the community economic base and the economic environment for successful export-producing enterprise. Skill-based education and employment counseling activities, for example, enhance the availability of various labor skills that, in turn, improve the competitive position of a community's export-producing businesses. Readily-accessible and well-managed private and public delivery systems that provide adequate health care at competitive prices and costs (relative to the competition in export markets) also contribute to a favorable local economic environment.

A series of development strategies were identified in a recent symposium on rural development in the U.S. None of the proponents of these strategies, however, cited linkage or proximity to metropolitan core areas as relevant to their success⁷. The underlying rationale for rural development in this case assumed a primacy of federal or central

⁶ Community economic development is viewed here as the "fourth wave" of economic development. Earlier discussions of state economic development cited "smokestack chasing" and "helping firms compete in global competition" as the first and second waves, with the second wave including state and local government incentives, ranging from financing and export initiatives to technology transfers. The "third wave" focused on long-term investments in technical education and business infrastructure. This rationale justified subsidy of education that could result in a more productive workforce that, in turn, would lead to improved economic growth and individual well-being (Mattoon and Testa, 1993). Cooperative enterprise also fits the "fourth wave" descriptions. Recent studies tend to show, however, that the similarity of functions of cooperative and investor owned firms, in spite of possible differences in perceived goals, may be the overriding factor in accounting for the similarity of performance indicators (Parliament, Fulton, and Lerman 1989). In comparison, a community economic development corporation is a community-based profit-making enterprise that has the capability of "attracting and obtaining a full range of financing and tools available to undertake economic and social initiatives," according to DMI's Mary Williams. She acknowledges that both cooperatives and CEDCs have "enhanced the democratic process and accountability in the business sector."

⁷ The seven strategies presented were: Business recruitment; business loans; tax increment financing; university-based research parks; enterprise zones; self-development; rural telecommunications. Sears and Reid, the symposium organizers, devised a set of 13 criteria for scoring the individual strategies. The criteria were: Breadth of studies; relevance of existing research to the strategy; number of success dimensions; appropriateness of success measures; quality of experimental design; data quality; timeliness of research; objectivity of research; settlement, representativeness; sample size; rural applicability; recognition of rural diversity; policy relevance (pp. 304-307). In an earlier article (pp. 184-189), Kenneth Deavers comments on what is rural, namely, small scale, low density, and distance from urban centers, with the rural areas closest to the urban centers being most affected by the urban overspill of industry and population.

government leadership and support, rather than the empowerment of state, local and area organizations, and their spokespersons as participants in the formulation of a rural development strategy. The conference organizers had overlooked the fact that rural economies vary greatly from area to area and that local capacity-building is an important pre-condition in successfully adapting the tools of community-based economic development to recognized differences in each community's economic base.

IV. SUMMARY AND CONCLUSIONS

1. Lessons from Clay County

Coping with the strongly competitive economic environments of open markets is no easy task for any business. It is doubly difficult for an agricultural community like Clay County, Minnesota. Its economic base is 70 percent agricultural and potentially vulnerable to the uncertainties generated by the U.S. Congress passing the North American Free Trade Agreement in November, 1993. The Clay County experience has much in common with the North Troendelag and central Norway experience in facing the prospect of entry into the European Common Market.

In 1990, Clay County businesses and governments produced \$1 billion of goods and services. Total population was more than 50 thousand. The workforce was more than 22 thousand with more than \$420 million earned in wages, salaries and self-employed income. Exports totaled to more than \$445 million. The county economy added nearly \$600 million to Minnesota's gross state product. In comparison, North Troendelag's population was 127 thousand, more than two and one-half times the Clay County population. Its employment was nearly two and one-half times as large. The Clay County employment represents jobs rather than persons employed - the jobs per 1,000 population being larger, in part, because of multiple job-holdings and commuting to Clay County jobs from outside the county.

There was a strongly held belief in Clay county that NAFTA will eventually destroy a mainstay of the local economy - the beet sugar industry. The NAFTA and Clay County study concluded, however, that in the short-run, an increase in Mexican sugar exports to the U.S., that would force a sharp drop in sugar prices, was unlikely. Even if Mexico were able to produce 800,000 metric tons of surplus sugar by 2008, NAFTA's built-in provisions would soften the blow on the Clay County beet sugar industry. For example, if all restrictions on Mexico's exports of its

surplus sugar were eliminated by Year 15, Tariff Rate Quotas on sugar producers outside the U.S. would be in place, meaning that the imports of sugar from other countries could be adjusted down to make up for the new Mexican sugar. The study further concluded that the Clay County beet sugar industry had the least to fear of any segment of the sugar industry. Hawaii and Louisiana producers would be among the first to fail because of their high production costs. The Clay County beet sugar industry, with its historically low production costs and superior access to the large midwestern markets, would thus stand the best change of survival beyond Year 15 of NAFTA.

To provide a framework for comparing several market conditions associated with different outcomes for the Clay County beet sugar industry, the study team prepared three scenarios of possible alternative industry futures. In the *worst case scenario*, Mexican sugar producers would reach a net surplus of 800,000 metric tons by NAFTA Year 15. In this case, the U.S. sugar industry would lack its former government protection and support, thus resulting in an eventual decline in the price of sugar that the Clay County beet sugar industry could no longer absorb, which would mark its demise. The study team also presented a *medium scenario* and a *best case scenario* and a set of conditions accompanying a corresponding set of results for the industry. The *medium scenario* shows Mexican sugar producers reaching a net surplus of 10,000 metric tons of raw and semi-refined sugar by Year 15. The small amount of additional sugar imports into the U.S. would have no measurable net effect, given other likely conditions. The *best case scenario* presents an even more optimistic set of market prospects for the Clay County beet sugar industry. The scenario approach thus gave the study team a way of probing more deeply into the concerns of sugar producers on the one hand, and on the other, the possibilities of negotiated solutions within the context of NAFTA provisions.

2. Lessons for North Troendelag County

The study on NAFTA and Clay County may have several lessons for North Troendelag County. They stem from two important activities discussed in the study that also relate to concerns about the perceived effects of the European Union on the North Troendelag economy, namely, negotiating adjustments to prospective market changes and finding a competitive advantage.

While the Red River Valley beet sugar growers and processors are in a stronger financial position than any other segment of the industry, they face the prospect of stiff competition, if not from Mexico, then from cane sugar and corn fructose. Local communities are well advised, therefore, to look for new sources of income-generating exports to replace the huge losses that would occur with the demise of the beet sugar industry. What remains as main likely alternative opportunities is employment in manufacturing, marketing and the private service industries. The remarkable news about rural Minnesota is the growth of these sectors, particularly manufacturing. This is at a time when manufacturing is declining in total employment elsewhere in the country. What contributes to this turnaround for rural Minnesota is the high cost of doing business in the metropolitan areas. This includes the additional costs of labor, rents, taxes, pollution abatement and industry regulations - costs that are lower in the rural areas. These are negatives for existing manufacturing plants in metropolitan areas become positives for the rural areas in Minnesota. In addition, rural Minnesota has some positives - a skilled and productive workforce, a strong work ethic, abundant recreational amenities, a strong commitment to being active participants in the emerging knowledge-driven, learning society and access to regional markets by interstate highway, rail and air, especially for the rural areas within 75 to 100 miles of the Minneapolis and St. Paul - one of the 29 U.S. metropolitan centers that serves also as an air transportation node in the global communication and transportation networks.

Clay County is part of the Fargo-Moorhead Labor Market Area (LMA) - the *functional economic community* - a daily commuting area - that straddles the Red River with counties in both North Dakota and Minnesota. Markets for the export-producing businesses in the Fargo-Moorhead LMA lie outside the LMA boundaries, which may change in size, of course, from one year to the next. Thus, the destination for some of the exports from a single county is another county in the same LMA. This sort of local trading provides opportunities for small businesses to acquire the production and marketing know-how for succeeding in larger and more distant markets. We call the process *import replacement* or *import substitution*, depending upon the local

market destination, whether intermediate (that is, semi-finished products) or final sales. It eventually may become a form of *export expansion*.

Strong linkages with metropolitan area businesses help reduce a rural area's vulnerability to unanticipated economic change by reducing the *risks and costs* faced by individual businesses. Core area manufacturing businesses, for example, initiate numerous contractual arrangements with businesses in rural areas to produce their product in peak periods or in periods of tight labor supply. They may initiate other contractual arrangements for integrating rural input supply sources into their production scheduling through professional and technical training programs in supply management, inventory control and production scheduling. Vulnerable rural areas also learn from viable rural areas when an assessment of the differences between the two focuses on *productivity and flexibility*. Businesses forming, locating, or expanding in transitional rural areas adjacent to the metropolitan core area have an important advantage. They have proximity to world class information systems and producer services for adapting rural area businesses to changing production technologies and global markets. In these areas, business volatility - changes in total employment due to births and deaths, expansions and contractions of business enterprises - correlates with economic growth.

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