

AG Ventures

Agriculture Business Profiles

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Agdex 420/830-3

Commercial Beef Niche Market Alternatives

The purpose of this factsheet is to look at some of the small and unique market opportunities for beef producers in today's marketplace. This information represents a snapshot in time and requires ongoing market research to verify market conditions and opportunities. This profile is not intended to be a substitute for managers making their own thorough assessment of all the key factors that would influence the success of their individual enterprise.

1. Industry Highlights

Consumers are demanding to know how their food is produced and some of them are prepared to pay a premium for organic or natural products. This is creating some niche market opportunities in the beef industry.¹ The opportunities addressed in this factsheet are certified organic beef, natural beef and certified hormone-free beef. Each of these products has been available in the past, but with today's larger numbers of health-conscious and wealthy consumers, the potential for sustaining these markets may be enhanced.

Certified Organic Beef

■ Organic is a registered term and is defined as product that has been certified organic by a certifying body. "In Canada, organic sales amount to \$135 million and growth is expected to be 20 per cent per year into the foreseeable future. There appears to be a developing opportunity for the production of certified organic beef."²

- *The Alberta Organic Food Producers and Processors Directory* lists 24 certified organic beef producers in Alberta. *The 1999 Prairie Organic Beef Costs and Returns Study*³ indicates there are 29 certified organic beef herds in Western Canada, 19 of which were in Saskatchewan. In total, 1,000 head of cattle from these herds were taken to slaughter as finished beef and sold as certified organic. Koller estimates in his study that there are another 150 herds with 4,500 head that have the potential to be certified. Information about the supply of organic livestock is limited in all of North America.
- Whether certified organic beef is grass-fed or grain-finished, all the feed must be certified organic. Other requirements are stipulated by the chosen certifying body. Currently, most certified organic beef is being sold directly to consumers through Farmers' Markets or farm stores.

- 1 A niche market is one that is smaller and differentiated from the predominant market for the same basic commodity or class of products (John E. Ikerd, Professor Emeritus of Agricultural Economics, University of Missouri Columbia, College of Agriculture, Food and Natural Resources; *The Role of Marketing in Sustainable Agriculture* - www.ssu.missouri.edu/faculty/jikerd/papers/stl-mkt.htm).
- 2 *Prairie Organic Beef Costs and Returns Study*, Koller Agri-Food Development Ltd (for Agriculture and Agri-Food Canada, March 1999).
- 3 *Prairie Organic Beef Costs and Returns Study*, Koller Agri-Food Development Ltd (for Agriculture and Agri-Food Canada, March 1999).

Natural Beef

- The definition of natural varies from producer to producer and is not a registered term. Natural tends to designate beef that has not been implanted with hormonal growth implants or treated with antibiotics. In many cases this beef is finished on grass during the summer months. At other times of the year, animals are fed forages and a small amount level of grain. These rations differ from producer to producer. Grass-fed beef can be marketed as natural or organic. The demand for natural beef is difficult to measure because the meat is sold mainly through direct marketing. Some specialty retail food stores and restaurants are featuring natural beef.

Certified Hormone-free (HMF) Beef

- In 1989, the European Union (EU) banned the use of hormonal growth promotants (HGP), cutting off exports of beef products from North America. In 1996, the EU approved the Canadian Program for Certifying Freedom from HGP. The program is designed to guarantee that eligible beef animals have never been treated with HGP. Animals certified free of HGP are eligible for export to the EU. This program is administered by the Canadian Food Inspection Agency (CFIA). Some producers market meat as natural hormone-free beef and are not certified. However, meat that is not certified is not acceptable for export to Europe. As of March 2000, industry sources estimate there were approximately 5,000 head of certified HMF beef cattle being fed in Alberta.

2. Regulatory Basics

Processing Regulations

- To ensure that Canadians have a safe food supply, all meat that is sold to consumers must be inspected. All levels of government are involved in the regulation of meat slaughtering, processing, packaging, labeling and handling.
 - All businesses that slaughter, cut and wrap red meat for human consumption in Alberta are regulated by the provincial government. All abattoirs must be licensed and provincially inspected by a meat inspector.

- All meat shipped out of the province must be processed in federal plants. Food industry meat buyers and grocery store meat buyers may also demand federally inspected meat.
 - Meat slaughtered and wrapped by a mobile abattoir can't be sold.
- For an overview of these regulations see the factsheet *Farm Direct Sales: Know the Regulations*.⁴

Production Regulations

Organic

- Organic beef must be certified by one of the four certifying bodies in Alberta (listed at the end of this profile under Resources). Check with each of the certifying bodies as they operate differently and have different regulations and standards. For general information check:
 - Organic Crop Improvement Association for International Certification Standards (www.ocia.org)
 - Canadian Organic Advisory Board (COAB) for National Certification Standards (www.pwgsc.gc.ca/cgsb/032_310/standard-e.html)
- A certification committee works with the producer and makes a decision as to the producer's readiness to be transitional. A transition period of three years is usually required to become certified. Past practices and records documenting those practices are a factor in how long the transition period is. During the transition period both the feed for the animals and their environment are regulated.
- In July 1999, national standards were approved for Canada (ISO65 compliant) by the Canadian Organic Advisory Board.⁵ Hormonal growth promotants and antibiotics used to promote growth are not permitted under these standards. Animals treated with non-permitted substances must be removed from the organic category and may no longer be marketed via this method. Slaughter livestock must be born and raised in a certified organic production unit. COAB standards are designed to be a set of minimum standards for certification and may include housing requirements, animal origin and yearly certification fees. However, each certifying body has its own set of certification standards. Therefore, producers are encouraged to check with the certifying body of their organic association for permitted practices.

⁴ *Farm Direct Sales – Know the Regulations*, Alberta Agriculture, Food and Rural Development, Agdex 854-7.

⁵ Canadian Organic Advisory Board – (www.coab.ca)

Certified Hormone-Free (HMF)

- HMF beef must come from a farm certified by the Canadian Food Inspection Agency (CFIA) and by an accredited veterinarian. The producer enrolls and each year fills out an application form and declaration. CFIA eartags are issued to the producer and an inventory registration is completed with a tag for each calf. The calves are monitored by the veterinarian (10 per cent of the animals inspected). A transfer certificate must be filled out any time the animals are transferred to

another certified site. The animals are again inspected by a veterinarian within three months of slaughter. At this time urine and feed samples are taken.

Natural

- Natural beef has no formal certification process. Most grass-fed programs have certain expectations of participants. These include not using HGP's and antibiotics.

Table No. 1 Comparison of production regulation requirements

	Organic	Natural	Certified HMF	Conventional
Certification of facility & livestock	Yes	No	Yes	No
Record keeping	Mandatory	Yes, for own purposes	Mandatory	Yes, for own purposes
Housing specifications	Yes, regulated	Yes, in regards to code of practice	Yes, in regards to code of practice	Yes, in regards to code of practice
Livestock ID	*CCIA	*CCIA	*CCIA & **CFIA	*CCIA

* CCIA – Canadian Cattle ID Agency

** CFIA – Canadian Food Inspection Agency

Other Important Regulations for Beef Producers

- The publication, *Recommended Code of Practice for the Care and Handling of Beef Cattle*⁶ (Agriculture and Agri-Food Canada Publication 1870/E), contains nationally developed guidelines for the care and handling of beef cattle. The Code is not intended to be used as a production manual. It contains recommendations to assist farmers and others in the agriculture and food sector to compare and improve their own animal management and welfare practices.
- The *Water Act* is Alberta legislation that came into effect in 1999. It recognizes three types of water use: household purposes, traditional agricultural use and licensed water supplies. Household water use of up to 1,250 cubic metres per year (275,000 gallons) is a statutory right and does not need to be registered. Household use is defined as human consumption, sanitation, fire prevention, and the watering of animals, gardens, lawns and trees. Small livestock herds of about 30 head can be included in this category. Agricultural use

above 1,250 cubic metres and up to 6,250 cubic metres per year (1,375,000 gallons) can be registered as traditional agricultural use. The amount of water that can be registered is based on past use and the application must be made before December 31, 2001. After this date any water use beyond household supply will have to be licensed by Alberta Environment. For more information, contact an Alberta Agriculture, Food and Rural Development district office or visit Alberta Environment's web site at www.gov.ab.ca/env/water/legislation/

3. Marketing Basics

- The challenge to match supply, demand and quality is critical to receiving a premium in the marketplace. All players in the food chain must receive a reasonable return in order for the niche market to be sustainable. As defined earlier, a niche is a market that is different from the predominant market.

6 *Recommended Code of Practice for the Care and Handling of Beef Cattle*, (Agriculture and Agri-Food Canada Publication 1870/E).

- The marketing of niche products can be done in numerous ways including directly to consumers and restaurants, through a broker or through an agency such as the Canadian Organic Livestock Association Inc. (COLA).⁷

Grading

- Grading (different from inspection) is the same for niche market and conventional beef. Grading is not mandatory, but may be required under certain marketing programs. In order to understand the needs of the buyer, and ultimately the consumer, a producer needs to understand the grading system. Beef carcasses are graded according to maturity (youthful or mature), quality and yield. Grades are designed to allow the uniform grouping of carcasses to meet consumer preferences and demands.
 - Quality grades are determined by a combination of maturity and marbling.
 - Canadian beef carcasses that have a youthful maturity, sufficient muscling and marbling will fit one of four high quality grades (A, AA, AAA or Canada Prime). These four grades represent almost 92 per cent of all graded Canadian beef cattle.⁸ Each of the grades is assigned according to degrees of intramuscular fat or marbling.
 - The B grades are for carcasses that are youthful, but have some deficiencies. B1 carcasses lack finish (less than 4 mm of back fat) or are devoid of intramuscular marbling fat. Youthful carcasses with bright red meat colour, but yellow fat (generally as a result of grass finishing)⁹ will fall into the B2 grade. Carcasses that are deficient in muscling, but have white fat are graded B3. Youthful carcasses having dark red meat colour are classed as B4.
 - Yield grades estimate the percentage of lean meat in a beef carcass. Yield (Y) grades are identified by numbers 1 (highest yield) through 3 (lowest yield), and are only determined for carcasses receiving the A grades.

- The differences in grading tend to substantiate the differences paid by the customer. Understanding carcass grades helps producers determine if they are feeding correctly for their customers. This depends on whether the customer wants a very lean or a well marbled animal. Based on the needs of his customer, the producer should be able to judge when an animal is ready for slaughter. The producer may not always be able to choose when animals will go to the marketplace due to the consumer having their own time lines. This means that at times animals will be under or over finished.

Direct Marketing

- Direct marketing is an option if producers are willing to spend the time finding and researching markets and getting the beef to buyers. There are two options for livestock producers who sell animals directly to the consumer. The simplest option sees the customer purchase a live animal from the producer. The buyer then arranges for slaughtering and processing for their own consumption. A second option is for the producer to have an agreement with the abattoir whereby the producer supplies animals on a regular basis for sale to specified customers. The abattoir provides a custom kill service to the producer. The end consumers is responsible for picking up their meat order or arranging for delivery.
- If producers plan to sell cut, wrapped or processed meat at farmers' markets or through other direct to consumer methods, the producer must follow the meat inspection regulations outlined on page two in the section on processing regulations. In addition, the producer is required to have a food establishment permit and meet storage and temperature control requirements.
- If you plan to sell your meat outside Alberta or Canada, your meat must be processed in a federally inspected plant. You may have difficulty finding a plant that will handle your niche product. Check out what's available in your area.
- Direct marketing takes time, but it does offer an opportunity to educate consumers about a high quality, farm-fresh products and develop customer loyalty. This is known as relationship marketing. For more information see the factsheet entitled, *Farm Direct Marketing for Rural Producers* (Agdex 845-6).

⁷ The Canadian Organic Livestock Association's (COLA) website can be found at <http://www.gks.com/cola/>

⁸ Canadian Beef Export Federation.

⁹ Aalhus A. L. & Robertson W. M., 2000 Beef Carcass Evaluation. Alberta Feedlot Management Guide.

- E-commerce is also a marketing option. By searching the internet for natural or certified organic beef it is possible to find numerous sites that are advertising these products.
- The market for certified organic and natural beef is driven by consumer concern relating to health, food safety and the environment. Marketing strategies include emphasizing the humane handling of cattle, promoting environmental management and explaining carcass aging.
 - The demand for certified organic beef is increasing with demand pressure from the United States and Europe.¹⁰
 - Hormone Free (HMF) beef targets market demands in Europe where hormonal growth promotant (HGP) use is banned. An Alberta company, Canadian Beef Export Co., worked with the CFIA to develop a workable program with producers in 1998. Since then, a second Alberta company, Rangeland Beef and Bison Inc., is marketing Canadian beef to the European market using this protocol. By the end of 2000, these companies anticipate that approximately 11,000 head will have been exported from Canada into Europe. A domestic market for HMF beef is also expanding as Rangeland Beef and Bison Inc. works with a national food service distributor that has operations across Canada. The target grade for these animals is Y1, AAA. These animals must grade Canada A. The only price discount is for animals grading Y3. The target live weight is 1,350 lbs. Calves can be certified by cow/calf producers and marketed to certified feedlots. Certified feedlots can then, through these brokering companies, market into Europe or to domestic markets.
 - Natural beef is most often sold directly to consumers. There has been some success direct marketing to fine dining restaurants. The health benefits cited by the promoters of natural grass-fed beef are: more beta-carotene in the meat, lower levels of saturated fat, higher levels of essential fatty acids with a good ratio of Omega 3 to Omega 6 fatty acids, and more conjugated linoleic acid (CLA).
 - Currently, there is a lack of federally inspected/ EU certified processing facilities to process specialty meat for export from the province.
 - Conventional beef producers are also involved in differentiated product marketing. Programs include marketing on the grid and branded beef alliances.
- *The critical marketing issues* are building and maintaining a relationship of trust with customers and keeping track of relevant political and regulatory changes. Your relationship with your customer, the image of your product and your reputation are your most valuable assets. At the same time it is important to stay on top of political and regulatory developments as events occurring locally, nationally and internationally can have a major effect on this market.

4. Production Basics

- For the most part, the basics of beef production are the same for certified organic, hormone free and natural beef as they are for the conventional beef industry.
- The purpose of this section is to give the prospective producer of niche market products an indication of production differences.
- No matter what type of beef production one is involved in, the following production management basics are key.
 - You must know your costs of production.
 - You need to keep good records and get the data back for analysis. Keeping accurate records and getting carcass data back at slaughter helps producers chose their breeding animals and feeding practices.
- Some of the production tools used in the conventional beef industry are not available to niche market operations. These tools include the use of hormonal growth implants, antibiotic growth promotants, and melengestrol acetate (MGA). In certified organic production, producers may not use chemical fertilizers or pesticides in their feed production. Producers need to receive a premium price for their products to offset these limitations.

¹⁰ Refer to the Resources section (items #3 and #12) at the end of this factsheet.

Organic Beef Production

- The farms where organic animals are raised have to be certified organic. This means feed, pastures and any purchased feedstuffs must be certified organic. A Saskatchewan study found the cost of keeping a cow under organic conditions is 23 per cent higher than in a conventional operation. During the summer months the production practices for both conventional and organic operations are the same. Therefore, calf weaning weights should be comparable.
- The period from weaning to slaughter for the organic calf costs from 27 to 39 per cent more than for the conventional calf. A study conducted at the University of Minnesota compared conventional and organic beef production systems. The researchers reported that it cost 39 per cent more to finish steers organically due to lower gains and increased days on feed.¹¹ Feed cost per pound of gain accounted for most of the difference between conventional and organic finishing systems in this study. Organic feeds cost more than conventional feed ingredients.
- The results from these two studies may be explained by the prohibition of hormonal growth promotants (HGP) in organic beef production. Research studies over the past 25 years have shown that these products increase gain by about 10 to 15 per cent and feed efficiency by about 8 per cent.
- Standards for treating and managing animals vary between certifying organizations. Treatments that are required by legislation are permitted. If a treatment is not required by legislation (for example, the treatment of internal parasites) and the animal is infected or sick, it must be treated. It then must be isolated, identified and sold as a non-organic animal. The costs of selling the animal as non-organic should be spread over all of the animals that started the feeding period. Most promotional literature does not calculate this loss into the final analysis. Presently, most organically produced cattle are fed and finished at home. This may cause an increase in cost due to the relatively higher overhead costs per head in small operations. For example, a tractor to feed 100 head costs more per head than a herd consisting of

1,000 head. However, the Canadian Organic Livestock Association is in the process of establishing custom organic finishing operations in Alberta and Saskatchewan to will handle organic fed cattle¹².

- Other costs that may be higher include: bedding (since it must be organic), marketing (an increased effort required to access niches) and transportation (may involve smaller loads and greater distances).

Natural Beef Production

- Up to weaning, there are few differences between natural and conventional beef production. The conventional producer vaccinates for disease prevention and most natural programs allow this practice. After weaning, the only difference from natural beef is the reduction in growth and feed efficiency that conventional programs obtain from using implants and ionophores. There may also be a loss in feed efficiency because antibiotics can not be used. Implants increase rate of gain by about 10 to 15 per cent and feed efficiency by about eight per cent. Ionophores are reported to improve rate of gain by three to six per cent and feed efficiency by five to eight per cent. They also help prevent bloat and coccidiosis. Reduced rates of gain and poorer feed efficiency translate into higher costs and more days on feed.
- Bunk management is an important issue for keeping animals on feed and growing. Another important issue is selecting cattle that are suited to your feeding program. Researchers at the University of Saskatchewan have shown that carcass size increases for large frame size steers, steers fed for a longer backgrounding period and for steers fed to a fatter endpoint (Canada Prime vs AA).¹³ In order to achieve greater marbling scores, steers should be fed to greater fatness, increasing the number of days on feed. However, according to the same researchers increasing the number of days on feed results in decreased lean meat yield and increased carcass size. Producers need to be aware that achievable combinations of marbling scores and lean yields differ with breed-type. There are feedlots that feed cattle on a natural beef type program, so economies of scale can be better achieved.

11 Fernandez M. I. & Woodward W. 1998. *Comparison of conventional and organic beef production systems: cost analysis*. J. Anim. Sc. 76 Suppl: 227.

12 Personal Communication with S. Rode, Canadian Organic Livestock Association.

13 H. C. Block, 1999. M.Sc. Thesis, University of Saskatchewan.

Certified Hormone Free Beef (HMF) Production

- The production of certified hormone free beef (HMF) beef is the same as natural beef. The only difference is that farms and animals must be certified by CFIA approved veterinarians. Some sampling is done as a check by sorting and putting cattle through a chute. There are feedlots prepared to offer this program.

- With each of these practices production is lower than that of tradition production. In most cases the costs of production are also higher. In order to access a particular market one must receive an appropriate premium over conventional beef production.

Table No. 2 Differences in major production practices

	Certified Organic	Natural	Certified Hormone Free	Conventional
Feed	100% of feed is organic; could be grass-fed	May be grass-fed and grain finished	Finishing ration consisting of up to 80% grain	Finishing ration consisting of up to 80% grain
Antibiotics for treatment of disease	** Yes, recorded and withdrawn from the program	** Yes, recorded	** Yes, recorded and withdrawal times doubled	Yes, often recorded as in the "Quality Starts Here" (QSH) Program
Antibiotics for growth	No	No	No	Yes
Vaccinations	Yes (with some restrictions), recorded	Yes, recorded	Yes, recorded	Yes, often recorded
Hormonal growth promotants (HGPs)	* No	* No	* No	Yes
Livestock handling	Recommended practices	Recommended practices	Recommended practices	Recommended practices
Days on feed	* Longer	* Longer	* Slightly longer Calves – 200 + days	Yearlings – 60 to 100 days Calves – 170 to 210 days

* Research on growth implants has shown eight per cent more feeding efficiency and 15 per cent improvement in growth rate.

** Antibiotics for treatment of disease may be higher in these types of production because of animals being pulled from the program and sold at a discount. There may also be increased costs due to longer withdrawal times.

■ *The critical production issues are:*

- Managers must know their cost of production.
- In organic beef production, the farm on which organic animals are raised must be certified organic.
- In natural beef production, expect a reduction in growth and feed efficiency as compared to conventional programs because of the absence of implants and ionophores.
- The production of certified HMF beef is the same as natural beef. The only difference is that both farms and animals must be certified by CFIA approved veterinarians.

5. Economic/Finance Basics

- The economics and financing of an operation specializing in organic, natural or hormone-free beef are similar to those of a conventional cow-calf business. Few specific cost of production numbers are available, but the following table makes some general comparisons.

Table No. 3 Economic Comparison

	Organic	Natural	Certified HMF	Conventional ¹⁴	
Cow-Calf Portion				Per Cow	Per Pound of Calf
Value of production	+++	same as conventional	same as conventional	\$778	\$1.49
Feed, bedding and pasture	+++	same as conventional	same as conventional	\$323	\$62
Labour	++	++	++	\$90	\$0.17
Other	++	++	++	\$196	\$0.38
Total costs per cow	+++	same as conventional	same as conventional	\$609	\$1.17
Feeding Portion				Per Head	Per Pound
Cost of Gain (weaning to 1,300 + lbs.)	+++	++	++	\$360 - \$380	\$0.51 per lb of gain
Carcass value	+++	++	++	\$1,145 to \$1,177	\$1.48 to \$1.52

+++ considerably more than for conventional production

++ somewhat more than for conventional production

- Costs for Natural and Certified Organic beef tend to be higher than for conventional production because of higher transportation costs, restricted use of growth implants, certification costs and reduced economies of scale. Certified Organic production also incurs higher costs because of the requirement for organically grown feed, bedding and pasture.

6. Resources

Alberta Organic Food Producers and Processors Directory

Prairie Organic Beef Costs and Returns Study; Prepared for Agriculture and Agri-Food Canada by Koller Agri-food Development Ltd.; March 1999.

Organic Agriculture National Standard of Canada, CAN/CGSB-32.310-99 prepared by the Canadian General Standards Board, June 1999.

A Study of the Organic and Natural Food Market Opportunities in the Pacific Northwest, prepared for Marketing and Services Division, Alberta Agriculture, food and Rural Development by Serecon Management Consulting Inc. and Globalwise Inc.

Farm Direct Marketing for Rural Producers, Agdex 845-6

Farm Direct Sales: Know the Regulations, Agdex 845-7

Certifying Bodies in Alberta

(Refer to <http://www.agric.gov.ab.ca/food/organic/directory/index.html> for latest listing)

OCIA Alberta #1 Organic Crop Improvement Association
Irene Mihailuk
Box 1209
Athabaca, Alberta T9S2B1
(780) 675-5478

OCIA Alberta #2 Sustainable Agriculture Association
Box 1181, Station M
Calgary, Alberta T2P2K9
1-888-561-2555

OCIA Alberta #3 Biological Food Producers Association
George Taylor
Box 989
Vulcan, Alberta T0L2B0
(403) 528-2010/(403) 549-2208

14 Adapted from benchmark information by Alberta Agriculture, Food and Rural Development's Economics Unit, 1999.

Peace River Organic Producers Association
Marina Buchan
Box 61
Silver Valley, Alberta T0H3E0
(780) 351-2115

Organic Producer Associations

Canadian Organic Livestock Association Inc. (COLA)
<http://colabeef.ca/>

Export Companies of HMF Beef

Canadian Beef Export Co.
Division of 663985 Alberta Ltd.
107 Schiller Pl. N.W.
Calgary, Alberta T3L 1W8
(403) 240-9256
E-mail: canadian.beef@home.com

Canadian Rangeland Beef and Bison Inc.
Rimbey, AB T0C 2J0
(403) 843-2231

Websites

<http://www.agric.gov.ab.ca>

<http://www.ocia.org>

<http://www.fas.usda.gov/htp/organics/organics.html>

<http://www.eatwild.com/>

7. Key Management Issues

- Are you prepared to make time to develop new markets for a specialty beef product? Is there someone on the team with the attributes of a good salesperson?
- Market research is important. Who wants to buy your product, in what form, where, at what price? Is the premium worth the extra cost and work?
- Record keeping is an important aspect of organic and HMF beef production. Cost of production records, organic records, certification records and export records are needed. Are you well organized and prepared for the extra effort?

- Since these markets are immature, managers will have to be prepared to do their own research and seek other like-minded producers for support and information.
- Producers may be exposed to increased risk while learning new techniques.
There is a need to reassess the market regularly to determine if the alternative is still a viable one.
- There is currently a lack of federally inspected/EU certified processing facilities to process specialty meat for export from the province. How will you address this issue?
- Some producers are filling niche markets on their own, but in many cases there needs to be a willingness to work co-operatively with other producers to centralize feeding and finishing to gain economies of scale and centralize slaughter in a federally inspected or EU certified plant.
- These strategies help to supply a continuous flow of beef to the retail outlet. Are you willing to give up some independence to form alliances and working groups? Developing new markets often means developing new strategies in co-operation with others.

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