

PROJECT NUMBER: TO BE ASSIGNED

TITLE: **COMMUNITY ECONOMIC DEVELOPMENT BY
MERCHANDISING, PRODUCING, AND DISTRIBUTING
TEXTILES AND SEWN PRODUCTS**

DURATION: **October 1, 1999 - September 30, 2004**

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STATEMENT OF THE PROBLEM

Continuing decline of the production base in textiles and sewn products has resulted in the loss of manufacturing knowledge, and jobs, and impacted the balance of trade. In the period 1974 - 1993 approximately 700,000 jobs were lost in the textiles and sewn products industry. Between 1960 and 1993 the trade deficit in the textiles and sewn products industry grew from near zero to nearly \$29 billion (Dickerson, 1995). Changes in the U.S. retailing environment in recent years have created economic and competitive challenges for smaller retailers. Plant closing and the loss of retail businesses have a disproportionate effect on rural areas. Loss of jobs can devastate small communities, and loss of local purchasing choices for rural consumers can lower quality of life.

JUSTIFICATION

Economic revitalization in rural America can occur with creative strategies in production, merchandising and distribution of today's textiles and sewn products through a rural-urban interface of consumers, designers/producers and merchandisers and retailers.

Merchandising, production and distribution of these products will increase options for entrepreneurs and others seeking domestic rather than offshore production opportunities. Improving the merchandising, production and distribution of U.S. textiles and sewn products will increase demand worldwide. Further, effective merchandising strategies of these products can increase consumer satisfaction, market share and profitability for rural businesses and can enhance choices for rural consumers.

This project will enhance rural economies by developing effective strategies for merchandising, production and distribution of textiles and sewn products in rural communities. High technology advancements in textiles and sewn products and their production and distribution have vastly increased end-use potential for both natural fiber and synthetic fiber fabrics (Holch, 1998). Product development is often directed to niche markets (e.g., active sportswear, environmentally friendly textile products, and western clothing) not imagined previously (Cornelius, 1997; Karpoff, 1997). New technologies for production of goods that satisfy consumers' needs such as mass customization are increasing opportunities for rural manufacturers.

This project addresses two ESCOP Research Initiatives and Cross-Cutting Issues. The research thrust of the project is centered within the Economic and Social Issues initiative. Relevant goals are to enhance agricultural and rural economies with new industry and opportunities for employment, to enhance rural community development especially in the area of entrepreneurship and job creation and to empower people for economic and social viability through consumer acceptance of technological

advancements in textiles and sewn products and new production and merchandising strategies. Textiles and sewn products production and merchandising are ideal vehicles for home-based business, small rural production facilities and for many types of jobs from production to management. Sewn products include apparel, interior furnishings, and industrial and consumer uses, a wide range of products important to the national economy. Adoption of innovative consumer-driven retail strategies (e.g., non-store competition, technology, entertainment) will enable small retailers of all types of sewn products to compete more effectively (Du & Apfel, 1995). An increase in market share will likely result in efficiencies and increased profit due to new markets for textiles and sewn products and/or more efficient and profitable methods for distribution.

Loss of production capabilities to offshore manufacturers is a primary concern in the sewn products industry. The resulting loss of jobs and production capability leads to economic losses and the eventual loss of production knowledge. This will result in a loss of workforce preparedness in the industry. Efficiency, transportation, quality of work performed and training for non-English-speaking workers, as well as trade, quota and tariff restrictions are reasons cited by some companies for opening domestic production facilities rather than looking to offshore production (Spruill, 1996). The products manufacturing and distribution strategies that will be investigated in this study are focused on keeping or developing production capability in rural America.

A second goal of the ESCOP initiative, Processes and Products, is addressed by developing new or improved non-food products, (i.e., innovative textiles and sewn products). A second goal of this project is thus to investigate the multidimensional nature of innovative textiles and sewn products worn or used by consumers in rural and urban areas and to explore ways to support the viability of these products and their contribution to the value added philosophy. Value-added textiles and sewn products designed relative to consumer concerns, rural life, natural resources, and consumer characteristics (e.g., lifestyle, age, gender, ethnicity) have potential to increase global competitiveness and thus enhance rural economies. In addition, investigation of the potential appeal of rurally-produced products in the urban marketplace will be investigated.

Textiles and sewn product production is a significant industry in the west and northeast contributing \$6.1 B and \$8.2 B in gross state product respectively (ATMI, 1997). Approximately 240,000 people are employed in the textile complex in western region states and 204,000 in the northeast. Of these, 22,000 are directly employed in western agricultural-related textile production fields; 5,000 work in such occupations in the northeast. Many major manufacturers and retailers have design, production and/or sales operations located in rural areas throughout both regions. A limited sampling includes Northface, Pendleton Woolen Mills, Spyder, Rocky Mountain Jeans, Obermeyer, Wyoming Woolens, Columbia Sportswear, Cattle Kate, Angelhart, Don Alleson, Jag, Woolrich and Eddie Bauer. Catalog and internet sales are an important distribution outlet for smaller rural manufacturers or home-based businesses and also provide a greater variety of products to rural consumers. The internet also provides potential for marketing worldwide. In addition, there are a growing number of small entrepreneurial home-based businesses that are often not included in economic surveys. The financial impact of these businesses in the rural community warrants further research.

Some specific research topics have been identified in Wyoming and Colorado. Ninety-four apparel manufacturers are located in Wyoming (ATMI, 1997). A number of

these manufacturers identified needs for assistance including quality assurance, cell manufacturing, pattern making and design, technical production skills, business skills, and marketing and management training (MAMTC, 1998). Colorado is home to 3912 apparel manufacturers (ATMI, 1997). Manufacturers in Colorado look to Cooperative Leadership in Networking Colorado (CO-LINC), the program at Colorado State University which connects industry and academia to address company-specific needs in such areas as pattern making, fabric characterization, merchandise selection and promotion.

New York State firms have also been surveyed to identify current technology use and perceived needs for information and educational programs. In a sample of 73 apparel manufacturers, from both upstate and metropolitan NY firms, about half used electronic data interchange (EDI) and 27% used the internet. Over half of the firms used bar coding and computerized inventory tracking. Interest in information about new technologies was expressed by many of the respondents (Kozen, 1997).

An exploratory study in North Dakota and South Dakota found that for some communities, sewn product manufacturers are a major non-farm employer with 43 sewing plants in 1993 (Lyons & Manikowske, 1997). Product lines in these plants included fashion, functional outerwear for hunting, protective apparel, embroidered caps and shirts, machine-knitted dance wear, and home furnishings. Management personnel in the firms discussed their concerns in the areas of *opportunities for the industry*, *issues facing the industry*, *resources used*, and *assistance needed*. Managers were interested in new developments in technology, niche marketing and globalization. Researchers hope to develop an outreach program through the university for these companies.

One major product category produced and sold at wholesale and retail in Colorado and Wyoming is western wear. Western wear industry executives note a recent focus on new trends in some categories of merchandise. For example, western wear and functional workwear worn in rural communities are sometimes purchased by urban consumers as fashion goods. However, industry executives of rural-based western wear manufacturers need assistance in merchandising strategies in order to compete successfully with mainstream manufacturers such as Tommy Hilfiger (Palmieri, 1998).

Activewear is another important category of textiles and sewn product manufacturing in Colorado and Wyoming. A challenge facing the activewear industry is to market innovative fabrics for activity-specific end uses (e.g., phase change fabric for thermal insulation, fabrics to reduce aerodynamic drag and increase heat dissipation) (Cox, 1998) while marketing activewear to mainstream consumers. In addition, consumers who participate in active sports have also been found to be concerned with environmental issues and may be more willing to purchase environmentally friendly products raising other marketing issues and opportunities (Engel, Blackwell & Miniard, 1995).

Though some services to producers and merchandisers exist through university programs such as CO-LINC and MAMTC and through agencies such as Small Business Development Center (SBDC) and Small Business International Development Center (SBIDC), there is a need for a holistic approach to producing and merchandising of innovative textiles and sewn products to enhance consumer acceptance. This project proposes to strengthen cooperation among agencies, libraries and businesses through identification of producers and merchandisers of textiles and sewn products, through evaluation of consumer responses to these products in rural and urban environments, and through development and testing of new creative strategies for producers and

merchandisers. Evaluation of consumer responses will be used to develop innovative processes that meet industry needs for efficiency and profit and result in products that are appealing to consumers. These innovative processes can convert to value-added products by creating an awareness of new markets for existing products, designing new products from existing fibers and fabrics, developing new merchandising strategies to reach rural and urban environments, and new production strategies involving the rural labor force.

The development of mass customized sewn products is an area that can provide opportunities for rural development. Mass customization is defined by Pine (1993) as a strategy that uses technology and management tools to efficiently produce customized goods and services with maximum differentiation but that still maintains low cost production. Mass customized apparel gives the consumer choices in style, fabric, and size and can be produced inexpensively using existing technologies of computer-aided pattern making, single-ply cutting, and team sewing systems. Production of mass customized apparel depends on a stable, trained work force located geographically so that many small orders can be shipped quickly to any part of the country. The competitive advantage lies in keeping the manufacturing process close to the point of delivery, eliminating the possibility of using offshore production facilities. Production methods concentrate on flexibility and rapid filling of small orders. This is in contrast to mass production in which the cost of producing each item is low, but total costs are high because of the cost of creating, warehousing, and distributing large inventories.

Apparel companies will return to domestic production for many reasons, including quality issues, training issues and tariff restrictions. However, as consumers increasingly demand apparel that fits their specific needs, the reduced transportation time and cost will be the most compelling reasons to strengthen the apparel production base in this country. Rural areas offer the attractions of lower employment costs and a stable workforce necessary for such facilities in contrast to urban areas.

An integrative approach to studying the relationships of merchandising, production and distribution of innovative textiles and sewn products offers distinct advantages. This approach will allow scientists to: (1) integrate qualitative and quantitative methods for researching consumers responses to innovative textiles and marketing strategies; (2) relate consumer responses and strategies to various product categories and retailers; (3) incorporate diverse expertise into a multifaceted approach drawing from both the physical and social sciences; (4) pool resources to expand data collection across several regions of the country; (5) further validate and quantify relationships to enable cost effective and successful merchandising, production and distribution methods in the sewn products industry.

Retailing in the U.S. has changed dramatically in the last six to eight years. For example, discounters, category killers, warehouse clubs, factory outlets, and specialty mail order catalogs have all emerged as competition for the consumer dollar. In particular, the presence of discount mass merchandisers has resulted in market saturation, driven retail prices lower (thereby driving production offshore), and impacted consumer choices, and consequently has added to the difficulties for small businesses in rural settings to generate profits (Stone, 1995). However, small manufacturers and retailers can compete through innovative strategies. Additional research is clearly warranted here to develop such strategies as modernizing through technology, increasing business efficiency, introducing customized or niche products and emphasizing quality customer service.

Figure 1 illustrates how an understanding of the needs and perceptions of consumers, merchandisers, manufacturers, and retailers are addressed within the proposed project. An integrative approach allows methodological advances by coordinating the experimental control associated with laboratory settings with the realism gained from field research (Eckman, Damhorst & Kadolph, 1990). This project will yield information to provide a framework that may be used by entrepreneurs, home-based workers, manufacturers, designers, retailers, merchandisers, consumers, extension agents and textile and clothing specialists. Thus, this project will contribute to more effective production and merchandising strategies and increased consumer satisfaction.

RELATED CURRENT AND PREVIOUS WORK

Understanding the needs and creating awareness of textiles and sewn products can help clarify the development of effective strategies to improve the textile product marketplace. The focus of this study will be rural manufacturers, retailers and consumers. A rural textile or sewn products company can consist of production facilities whose parent administration is in an urban location or the management, production and distribution can be wholly rurally based. However, the marketing is more likely to be successful if it includes both the rural and urban consumer. In addition, the rural consumer has special needs that can be addressed by companies located in urban areas. In this section some key representative categories of textiles and sewn products and related studies are discussed.

Production and Merchandising of Textile and Apparel Products in Rural and Urban Communities

Sun Protective Textiles. The introduction of sun protective fabrics as part of sun protection programs is of particular relevance to consumers in the western part of the U.S. in areas where outdoor recreational activities are a part of an individual's lifestyle and the danger is greater because of higher elevations. Rural workers are also at risk. It is now well established that exposure to the short wave component of UV radiation can lead to skin cancer and premature skin aging. In the outdoors, the best mean of protecting the skin against UV radiation, in addition to sun screen lotions, is clothing; however, not all fabric protect. So far, studies on sun protective fabric have found a fabric's porosity is a major factor in transmitting UV radiation (Capjack, et al., 1994; Hilfiker et al., 1996). Additional research has shown that other fabric parameters including fiber content, fabric construction, weight and thickness, as well as dyes and UV absorbers impact a fabric's sun protection factor (SPF) (Reinert, Fuso, Hilfiker, & Schmidt, 1997). As a result of extensive studies done in Australia over the last few years, researchers have developed standards, testing methods, and a classification of SPF fabrics which the intention of creating a labeling scheme to assist consumers is selecting sun protective fabrics.

Consumer response to innovative textile products. Little information exists on consumer response to SPF fabrics. Marketing strategies are needed to inform consumers that not all fabrics protect skin and create awareness that specialized SPF fabrics are available. The S-272 project, Development of Textile Materials for Environmental Compatibility and Human Health and Safety which investigates fabric parameters that

affect sun protective factors of textiles, but does not investigate the consumer acceptability important to manufacturers and retailers.

Creative strategies. Currently there are a number of companies providing sun protective fabrics and apparel. Fabrics composed of nylon fibers in high fabric counts combined with UV resistant chemicals and dyes are available in roomy clothing styles and distributed through small companies in California, New Mexico, Arizona, and Washington state. Markets include recreational activewear for leisure activities, in the form of separates for men, women, and especially children (sun exposure in childhood and the teenage years dramatically increases the risk of skin cancer).

Green Products. Interest in the environmental movement was high for consumers as well as researchers in the 1970s. However in the early to mid 1980s interest began to wane due to a recession and concern for economic issues. An improved economy, industrial accidents, and evidence of growing environmental problems led to a resurgence in interest. Research indicated that new environmentalists are a broader base of consumers. However, despite the interest in the environmentally conscious consumer in the trade literature, little recent empirical research has addressed the effects of environmental attitudes on the purchasing process (Butler & Francis, 1997).

Green products available. Tencel, a 100% cellulosic fiber derived from wood pulp, is manufactured by a unique environmentally friendly production process. While its origin is an agricultural product, the fiber is manufactured. Tencel products are biodegradable and easily disposable (internet 1). The FTC classifies Tencel (Lyocell) as a sub category under rayon. The fiber is soft, strong, and absorbent, it resists wrinkles, can be dyed to vibrant colors, allows for a variety of effects and textures, has good drapability and a silky hand (internet 2). Tencel products are carried at better specialty stores and major department stores throughout the U.S., Europe and Asia (internet 3).

Wellman, Inc. introduced EcoSpun in the early 1990s. EcoSpun is manufactured by recycling PET (polyethylene terephthalate) plastic soda bottles. Manufacturers utilizing EcoSpun include Carpet One (the nation's largest carpet retailer), Lee's Commercial Carpet, Malden Mills (Polartec), and Carlee Corporation (leading producer of polyester fiberfill). Swift denim has introduced a new eco-blend denim (Trio™) manufactured from 55% Tencel, 30% EcoSpun, and 15% cotton. This denim stands out for its soft hand and look. Swift also manufactures Soda Pop denim from EcoSpun polyester. Six soda pop bottles are utilized to manufacture every pair of jeans (internet 4). EcoSpun is used in such products as sweaters, thermal underwear, sportswear and jeans, pillows, blankets, upholstery fabrics, luggage, backpacks and belts. Retailers carrying EcoSpun products include Nordstrom, Saks, Macy's, JC Penney, Urban Outfitters, Paragon, the Nature Company, Eddie Bauer, Patagonia, L.L. Bean, Lands End and Seventh Generation (internet 5).

Cotton fiber and cotton products are also being produced using environmentally friendly practices. Organic cotton is cotton grown following organic fiber certification standards in a field where organic practices have been followed for three years. Naturally colored cotton has color without synthetic or natural dyes. Green cotton textile products have only been washed with a mild natural based soap and not bleached, dyed (unless with natural dyes), or treated with other finishing chemicals. Green in this case refers to processing not growing practices. Organic cotton is produced in at least six states in the U.S., including Arizona and California.

Although controversial, industrial hemp (non-psychoactive) is another example of a green textile. Hemp is a fast growing, high yield renewable resource that can be grown without the use of chemical fertilizer and pesticide (Musselman, 1997). Though production is not legal in the U.S. there is increasing support due to Canada's recent legislation allowing farmers to grow industrial hemp for clothing.

Consumer response to green products. Approximately 14% of the US population prefers environmentally friendly products and 6% report that they will make such purchases if they are cost-effective (AConsumers=true@, 1995). Consumers may be divided into five groups based on their levels of environmental activity. These consumers may be identified through demographics and lifestyle.

In the European Union, two-thirds of citizens have bought or are ready to purchase green products even if they cost more than less environmentally friendly goods (AGreen sells@, 1996). Globally, green technology constitutes a U.S. \$250 billion market that is growing at 8% annually.

Researchers have had difficulty measuring environmental attitudes to explain environmentally responsible behaviors (Alwitt & Berger, 1993). For example 70% of consumers show high levels of concern for the environment; yet, their consumer behavior for products and services may contradict these attitudes. Predicting consumption of environmentally sensitive products, may be enhanced by understanding the strength and valence of consumers' attitudes. Future research should measure attitudes toward a potentially polluting product and conflicts between environmental concerns and product benefits; research should assess market potential, identify market segments and evaluate persuasive techniques for environmentally sensitive products.

Creative strategies. Potential rather than current users of environmentally sensitive products may be better targets for strategies to alter attitudes and behavior (Butler & Francis, 1997). This segment may require education about environmental costs. Attitude strength dimensions can be used to increase the usefulness of attitude change strategies by public policy makers who want consumers to take environmentally positive actions. They can also be used by marketers to identify the scope of >green= interest in their product category, and develop appropriate marketing strategies which will both increase profits and protect the environment.

Against the background of a mature textile market pressured by foreign imports, domestic producers of textile processing chemical are looking toward product niches concerning the environment and consumer trends toward casual and environmentally friendly clothing when formulating products (LePree, 1994). Green products are available but are not always merchandised appropriately to gain consumer support. For example, Ecosport, a manufacturer using organic cotton showed their lines in large department stores for a time. The company removed the lines from the stores because of dissatisfaction with results believing improper merchandising to be at fault (AThe (Eco) sporting@, 1996). Merchandising is especially important for green products because they are generally more expensive and unfamiliar.

One effort to gain greater consumer acceptance is the introduction of eco-labels. An eco-label provides environmental information about a product. This is a voluntary program to educate consumers and encourage them to select environmentally friendly products. The growth in eco-labeling programs (28) worldwide highlights the potential tensions between free trade and environmental protection. Many manufacturers fear eco-

labeling programs suffer flaws and serve only as covers for underlying protectionist aims. While different types of eco-labels exist, eco-labeling programs typically shun single issues such as Recycled or Biodegradable and focus on a product's overall environmental quality (internet 6).

Western Wear. Western wear, particularly denim, began as utilitarian garments for workers such as cowboys and miners. However, western wear gained popularity from 1900 to 1950 in the mainstream market with the popularity of entertainers such as rodeo riders and television and movie actors (Beard, 1993). Currently consumers spend approximately \$1 billion on Western apparel; retailers enjoy multibillion dollar sales for jeans. The western wear industry merchandises a variety apparel of products. Industry executives believe that sales of jeans, updated shirts, and boots will continue to strengthen (Palmieri, 1998). Children's wear and gifts have also recorded strong sales recently.

Consumer response to western wear products. Baby boomers, the prime jean target market, grew up in jeans that complimented their casual and active lifestyle (Vargo, 1994). Approximately 30% of all women's and girls' bottoms and 38% of all men's and boys' bottoms produced in the U.S. in 1997 were jeans (ATMI, 1997). Early in the 1990s, however, western manufacturers' and retailers' sales and profits declined (Vargo, 1994). This trend has been attributed, at least in part, to increased competition and consumer dissatisfaction with fit; the industry has recognized the need to examine new markets, focusing on the changing needs of consumers in terms of fit, comfort and styling (Ozzard, 1993; Vargo, 1994). Sales of western wear picked up in the mid 1990s but leveled out in 1997. Some industry executives believe that this may be because western manufacturers did not effectively appeal to the mainstream market. However, despite the enormous market size and recognized need, few research studies have investigated the multibillion dollar jean industry (Meyer, 1995). Two recent studies have examined the fit of women's jeans (Bickle, Kotsiopulos, Dallas, & Eckman, 1995; Delk & Cassill, 1989).

Creative strategies. Concerned with development of private label jeans for their catalog company, a manufacturer supported a research project on the fit of women's jeans, (Bickle, et al., 1995; Dallas, Bickle, Kotsiopulos, & Eckman, 1995). Development of jeans for women was accomplished when the company realized their female customers perceived jeans fit performance to be less than expected. Overall, the largest gap between expectation and perceived performance of jeans fit was experienced by large frame women. Since special size markets (e.g., petite) have become an increasingly profitable segment of the apparel industry, the researchers recommended the company consider development of jeans for special markets, in addition to the women's market be examined. The companies designer/merchandiser developed, produced and marketed a private label Ajean for ladies. The classic Western jean is sold in three rise fits for petites, regular or tall.

Recent strategies to build the western market include producing jeans with more comfortable cuts and western style clothing with athletic themes (Palmieri, 1998). Some western wear manufacturers believe that they lost an opportunity to attract mainstream customers when western wear was hot. Thus western wear manufacturers and retailers are offering more items that combine mainstream and western style clothing to generate cross-over business (Vargo, 1998). For example, Wrangler is producing a twill pant that looks mainstream but has Western detailing, including wider belt loops, space for a trophy buckle, and longer inseams to stack over boots. The industry hopes that contemporary

western styling and national advertising will increase cross-over business.

An additional marketing strategy is being employed by a major jeans manufacturer, Levi Strauss. Levi's Personal Pair® (now called Original Cut®) blue jeans are the first true mass customized apparel product. The manufacturing site is in a rural community.

Retail stores such as Sheplers and Miller Stockman have found that in-store shops, better inventory management and employee training have increased sales (Palmieri, 1998). Manufacturers agree that a greater cooperative working relationship between them is more important than ever for building the Western wear market (Vargo, 1998). Due to the lack of empirical research on western wear products, further investigation is warranted to develop strategies that would be helpful to firms that manufacture and retail these products.

Active Sportswear. Active sportswear is a product category that is often manufactured from innovative textiles. Although activewear is one of the major emerging segments in women's apparel, many retailers have not reaped the benefits of the category's tremendous potential (In training, 1998). Sales of women's activewear totalled \$3.8 million in 1997. Sales continue to grow vigorously, particularly for apparel manufacturers and retailers who target nontraditional sports (e.g., in-line skating) (The women weigh, 1998).

Consumer response to active sportswear. Active sportswear is becoming increasingly popular with consumers. The merger of fashion with technical details is due, in part, to consumers' increased interest in healthy, active lifestyles (Telling the high, 1998).

Creative strategies. Retailers have recognized the traditional strategies are not effective in reaching the active sportswear consumers. Small retail stores are attracting consumers through well-informed salespeople, good customer service, lesser-known label, and special events. Large retail companies, such as Mercantile for which 11 percent of their apparel sales come from active sportswear, are trying innovative strategies, such as concept shops, combining fashion with functional designs, expanded offerings hosting sports-related in-store clinics and entertainment, and upgrading the textiles (Gearing up, 1998). Textiles designed for performance are moving onto the mainstream retail selling floor (Telling the High, 1998). Fiber and textile manufacturers believe that consumer education through point-of-purchase materials and hangtags is the best way to merchandise their high tech products such as ripstop nylon, Thermolite,

Creative Strategies for Merchandising Textiles and sewn Products: **Rural vs Urban Retailing**

One of the biggest challenges facing rural retailers in today's market appears to be product selection (Douglas, et al., 1995; Ayers, Leistriz & Stone, 1992). Findings from focus group data of a much larger study on rural retailing indicated that consumers believed their basic merchandise needs were met locally (Douglas, et al., 1995). However, a number expressed a need for more variety in apparel selection locally, including specialty items and sizes. Small independent retailers have difficulty maintaining depth and breadth of inventory. A number of vendors require minimum quantity orders that small retailers have difficulty in obtaining. For example, the recent quantity restrictions imposed by Levi Strauss have left rural consumers without a local source for Levi jeans.

Fincham and Minshall (1995) found that community size influenced independent apparel retailers' efforts to upgrade the quality of merchandise, increase inventory of brand name items, install a computer, update the inventory system, and attend business seminars. As community size increased, retailers were more likely to have implemented such changes.

Rural consumers expressed frustration with both service and convenience (Douglas, et al., 1995). However, rural retailers are conscientious of the need of providing good customer service. Many realize that customer service policies and product knowledge differentiate them from larger stores in urban settings. While consumers voiced positive opinions of local customer service, they appeared more negative concerning shopping convenience issues such as adequate parking, store hours, and availability of credit.

Several major retail themes have emerged in recent years, including shopping as entertainment. A number of small retailers are following the entertainment concept recently introduced by malls (Du & Apfel, 1995). Offering food service, entertainment and shopping under one roof may result in a compelling destination.

Tourist Markets vs Traditional Markets. Travel and tourism generates approximately \$327 billion in revenue from both foreign and domestic visitors making it the third largest employer in the United States. Tourists shop and spend money on T-shirts, sweatshirts, and other apparel items displaying the name or design of the location which they are visiting. Also, approximately 70% of tourists purchase gift items for holidays, birthdays and other such events (Gahring, et al., 1992).

Changes that affect large and small trade market retailers are also of concern to retailers operating in tourist based communities. In addition, tourism traffic and the factors associated with making a community attractive to tourists significantly alter the complexion of the retail environment (Crank, Jasper, Meyer & Sternquist, 1995). In order to effectively compete in the market, retailers in tourist-based communities must take advantage of those business strategies on which they excel compared to urban and trade counterparts. Many tourist communities are noted for customer service and friendliness.

Tensions can exist between resident consumers and retailers in tourist-based communities. Challenges for retailers include a merchandise mix that meets local consumers' needs and reasonable prices. Consumers living in well-established tourist areas learn to cope simply by avoiding the town during the tourist season. Residents of a less well-established tourist area tend to maintain former shopping habits and may become extremely frustrated (Douglas, et al., 1995). Finding the common ground for retailers, resident consumers, and tourist consumers is both a challenge and a desirable goal for continued economic growth.

Home-based Businesses and Entrepreneurship. According to the National Association of Home Based Business (NAHBB) there are more than 50 million people working from their homes. Of that, approximately one-third are estimated to be home-based businesses (internet 7). The NAHBB further states that home managed business are the fastest-growing segment of the U.S. economy with an annual growth rate of approximately 10%.

A number of textile product manufacturers are entrepreneurial in nature. Many of these businesses, especially in rural areas, either started as or are currently home-based businesses. Textile artisans and crafts persons have often begun their professional lives in

their homes by producing, selling, and living in the same space. (Locker & Scannell, 1992)

These businesses often need a greater understanding of business practices. The level of success of the home-based business depends on their use of business practices (e.g., management, product development, pricing, marketing, and promotion) and mirrors that of entrepreneurs operating outside the home (Littrell, Stout & Reilly, 1991). The majority of textile product home-based businesses in a recent study tended to be owned and operated by females (Locker & Scannell, 1992). Many of these female owned businesses are contributing an additional income source to a farming household.

Recruiting home-based businesses has become a strategy to help save declining towns in some rural areas of the U.S. The economic recovery of rural areas is tied to small businesses, and home-based businesses are an important segment of this category (Chen & Heck, 1994-95).

Distribution of products produced either in home based businesses or small rural facilities can be done effectively using catalog and internet strategies. In recent years, catalog-based businesses have shifted from large generic catalogs mailed once a year to smaller more focused catalogs sent out many times during the year as customers needs become more fragmented and retailers become focused on smaller segments of the marketplace. Consumer interest in a greater variety of products from which to choose drives this trend. Both catalog and internet retailing methods allow the design, production and merchandising facilities to be located anywhere in the country while giving the potential for global marketing. The internet allows the additional advantage of enabling consumers to customize products. Some companies are already using this marketing tool. For example, The Shirt Company has an internet site at which the consumer can identify fabric, style features and individual size information for a customized shirt that is manufactured and send directly to the consumer. Other companies such as Calla Bay custom swimwear support a web site that provides a similar mass customization experience. Other examples of entrepreneurial on-line apparel companies can be found at the following sites:

www.squash-blossom.com

www.cooleysport.com

www.TheShirtStore.com

Use of the internet for retail purchases is increasing, and this trend is expected to continue. In a recent survey of consumer reactions to apparel purchases (Consumer Outlook (SM)99) conducted by Kurt Salmon Associates, 17% of internet users had made a purchase on the internet in 1998. Fifty-five percent of these respondents were very satisfied with their on-line purchases in contrast to 40% very satisfied with catalog purchases. On-line time of respondents has increases 20% from 1996 levels (West, 1998).

Methods

There is a lack of empirical data on rural and urban consumers=perceptions of textiles and sewn products innovations. Instruments designed to measure consumers=responses should be consumer-driven rather than imposed by the researchers to be helpful in developing effective market strategies. Thus, focus group data will be gathered to direct development of a more quantitative questionnaire.

Advantages of Using Focus Groups for Research Projects. Instruments commonly used in consumer research ask subjects to respond to questions with variables selected by researchers. Preselected variables, however, reflect researchers' judgments about what may be important to consumers. Fishbein (1971) stated that using predetermined lists may trigger responses based on social desirability rather than actual beliefs.

Focus groups are especially helpful if there is little information regarding consumers' perceptions about a product category (Durgee, 1987). Data obtained from focus groups provide more details and valid information than do survey data (Goldman & McDonald, 1987). Focus groups encourage discussions of consumers' opinions, feelings, attitudes, and behavior toward products (Durgee, 1987; Goldman & McDonald, 1987; Gordon & Langmaid, 1988; Johnson, 1988; McQuarrie & McIntyre, 1987; Morgan, 1988). Data from focus groups may be helpful in clarifying issues, identifying ranges of behavior, exploring and explaining consumer motivations, and identifying distinct behavioral groups (Gordon & Langmaid, 1988). Qualitative data may not be appropriate when predicting future consumer behavior. However, when focus group results are incorporated into the development of a quantitative measure, a reduction in specification error may result (Goldman & McDonald, 1987).

One concern with qualitative data collected in focus groups is data validity (Goldman & McDonald, 1987). However, limiting the size of the group and designing the script to make participants feel comfortable sharing their ideas are two methods for encouraging honest and thorough responses.

Data Collected in the Field. According to Holbrook (1983), consumers evaluate products for purchase in shopping environments comprised of complex sets of cues. An experimental setting used for data collection may not include or may distort the cues. As a result, consumers' responses concerning factors that influenced their purchase decisions may not be accurate. Asking consumers about real products in retail settings has several advantages. Point-of-purchase interviews may be more accurate, economical, and higher in response rate than mail and telephone surveys (McIntyre & Bender, 1986). Despite these advantages, relatively few intercept studies are conducted. Disadvantages of in-store data collection are possible bias due to interaction between the interviewer and subject and the lack of probability sampling.

Human Physiological and Perceptual Responses to Textile-Skin Interface Considerable research has been accomplished in the area of human physiological and perceptual responses to textiles. Research on perceptual responses to textiles has been under development for over 25 years, including methods that create bridges between physiological and perceptual research with a goal of clarifying understanding to responses to textiles within the context of use. Numerous relationships have been found between physical tests on fabrics and sensory descriptions given by consumer respondents (Brandt, et al., 1998).

Opportunities exist to examine the human physiological responses to the effects of textiles worn or placed next to the skin. Various methods and instrumentation expand the understanding of: 1) hydration and water evaporation, 2) frictional characteristics of textiles, and 3) profiling textile characteristics (Cameron, Dallas, Brandt, & Brown, 1996).

A valid and reliable instrument/scale for assessing human perceptual responses to fabrics has advantages over existing measurement instruments because it has greater external validity than existing scales (internal document, 1998). The instrument consists

of seventeen traits/adjectives to which consumers can respond on a nine-point unipolar scale (e.g., very soft - not soft, very thick - not thick, very rough - not rough).

Integrating aesthetic, physical, and social variables with economic variables in the analysis of textiles and sewn products can better equip researchers and producers/marketers alike to comprehend and anticipate the diversifying and changing needs and preferences of consumers from rural and urban settings in a global economic context. The next step for developing creative production and merchandising strategies for textiles and sewn products is to analyze current practices and rural and urban consumers' responses to them.

CRIS REVIEW

A CRIS review of projects related to the proposed research has shown that there are currently no projects related to the overall encompassing goals of the proposed project that is evaluation of innovative production, distribution and merchandising of textiles and sewn products. There are projects which may have or are evaluating one of these aspects (e.g. ALA-07-010, Jan 1997-Dec 2001, Identifying process and management strategies for Alabama's integrated textile..... which is examining mass customization for Alabama's textile and apparel industry; NEB-94-017, Oct 1988-Sep 1994, Rural retailing: Impact of change on consumer and community which profiled areas of competitive strength for rural retailing; ALA-07-001, Oct 1992-Sep 1996, Assessment of apparel and textile producers in rural communities and development of computer technology which assessed technology and competitiveness of small apparel and textile producers in Alabama; ILLU-05-0308, Oct 1998-Sep 2003, Impact of technology on rural consumer access to food and fiber products which is evaluating communication technologies). There are also projects which have looked at developing environmentally friendly technology or environmental compatibility of textiles (e.g. ALA-07-007, Mar 1993-Dec 1994, Development of unique fibers using environmentally friendly technology; ARK-1498, Oct 1992-Sep 1996, Assessment of the environmental compatibility of textile and other polymeric materials; ARK-01-680, Oct 1996-Sep 2001, Development of textile materials for environmental compatibility and human health and safety;) but these type of projects are beyond the scope of the proposed research.

OBJECTIVES

- 1. To assess innovative merchandising, production, and distribution of textiles and sewn products**
- 2. To evaluate consumers' responses to textiles and sewn products and to innovative processes of merchandising, producing, and distributing textiles and sewn products**
- 3. To develop, and compile responses to, creative strategies for merchandising, producing, and distributing textiles and sewn products**

PROCEDURES

Objective 1: To assess innovative merchandising, production, and distribution of textiles and sewn products

In stage 1, firms and individuals producing targeted textile products and firms using innovative manufacturing and distribution methods in participating states will be identified. This will be accomplished by referring to sewn products directories, industry guides, membership lists for professional associations, and telephone books. There may be some advantage to categorize the firms for further analysis (e.g., by size, category of merchandise produced, etc.)

In stage 2 individual rural manufacturers and entrepreneurs will be interviewed about production and distribution methods. The degree of outsourcing will also be explored. An attempt will be made to identify characteristics of the products that make domestic production more viable than producing the product offshore, thus retaining economic assets of that process. Manufacturers and entrepreneurs will also be asked about their degree of mass customization, specifically what percentage of their business is comprised of mass customization, whether they believe mass customization offers an advantage to domestic rather than foreign sourcing, how mass customization impacts their profits, and the extent of their knowledge of particular production methods used in mass customization. They will be asked to describe how they market innovative textile products in urban/rural areas. Finally, they will be asked to identify their retail/catalog/internet customers. At this stage we will elicit employment history, levels of production, profitability, number of companies supplied, export history and geographic distribution of goods or products, and in addition what are their specific goals for future development.

In stage 3, retailers and other distributors will be interviewed or surveyed concerning characteristics of the innovative textile products (positive and negative), the target market, merchandising policies and distribution policies for these products. The balance of products produced offshore versus domestically and their characteristics will be investigated. Retailers will also be asked about their involvement in strategies such as catalog and internet sales. At this stage we will elicit employment history, retail sales, profitability, import history and geographic market region, and in addition what are their specific goals for future development.

Objective 2: To evaluate consumers' responses to textiles and sewn products and to innovative processes of merchandising, producing, and distributing textiles and sewn products

Stage 1: Urban and rural consumers identified in objective one, stage 2, will participate in focus group interviews and in-store surveys to identify how they learn about innovative textile and sewn products (e.g., catalog, Internet, sales associates, hangtags, traditional advertising) and provide their responses to production and merchandising strategies for these products. Characteristics (e.g., demographics, psychographics) of

urban and rural consumers of innovative textile products will be identified. Based on results of focus group interviews, a mailed survey will be developed to elicit the same information from a wider audience of rural and urban consumers.

In stage 2, consumer attitudinal and perceptual responses to textile product innovations produced or marketed in the state(s) will be measured using focus group and in-store survey techniques. Responses from rural and urban consumers within a context of use framework will be compared.

In stage 3 laboratory assessment of textiles will include testing of the physical characteristics of the fabric and perceptual and physiological responses to the fabric's surface characteristics to measure congruence between consumer attitudes and actual performance. The fabrics will also be subjected to a consumer rating scale.

Objective 3: To develop, and compile responses to, creative strategies for merchandising, producing, and distributing textiles and sewn products

In stage 1, focus groups comprised of manufacturers who produce textiles and sewn products will be organized in participating states. During focus group interviews, participants will respond to scenarios describing innovative manufacturing methods, textile products and merchandising and retailing methods developed by the researchers. These data will be content analyzed to identify themes within participants' responses. Manufacturers will be asked to adopt specific elements of the innovative strategies presented to them. After a period of implementation manufacturers will be asked for periodic updates of economic data gathered in objective 1. Economic baseline data gathered in objective 1 as well as the periodic updates will be compared in order to evaluate the economic impact of the strategies adopted.

In stage 2, focus groups comprised of retailers who sell textiles and sewn products would be organized in participating states. During focus group interviews, participants will respond to scenarios describing textile products and merchandising and retailing methods developed by the researchers. These data will be content analyzed to identify themes within participants' responses. Retailers will be asked to adopt specific elements of the innovative strategies presented to them. After a period of implementation retailers will be asked for periodic updates of economic data gathered in objective 1. Economic baseline data gathered in objective 1 as well as the periodic updates will be compared in order to evaluate the economic impact of the strategies adopted.

In stage 3, focus groups of consumers will be organized in participating states. During focus group interviews, participants will respond to scenarios describing textile products and merchandising and retailing methods developed by the researchers. These data would be content analyzed to identify themes within participants' responses. The salience of the themes will guide product development and creation of integrated merchandising strategies.

EXPECTED OUTCOMES

One major outcome of this project will be the actual dialog among manufacturers, retailers, and consumers in an industry where such dialog does not often occur. An outcome of this dialog would be an understanding of a greater variety of options for

production, merchandising and distribution of textiles and sewn products that are particularly suited to the needs of the rural community. Such products will also potentially be attractive to the global market. There is tremendous promise for economic growth, community development and employment in rural America with the added benefit of maintaining production knowledge and capability. Social benefits include providing jobs and making it possible for people to obtain products that meet their needs. A potential additional benefit is making consumers more aware of environmentally friendly products.

Presentations of the results of this study will be made at professional meetings attended by manufacturers and retailers. Articles will be published through journals, trade magazines, newspaper articles, extension publications and trade group publications.

ORGANIZATION

Officers

All voting members of the technical committee are eligible for office, regardless of sponsoring agency affiliation. The chairman, in consultation with the administrative advisor, notifies the technical committee members of the time and place of the meeting, prepares the agenda, presides at the meeting of the technical committee and executive committee. She/he is responsible for preparing or supervising the preparation of the annual report of the regional project. The secretary records the minutes of the meetings and prepares copies for distribution to all members, to the directors, and appropriate chairmen of participating SAES, institutions, and agencies, and to the regional research office of CSREES. Other duties may be assigned by the technical committee or administrative advisor.

Subcommittees

Researchers coordinating objective 1, objective 2, and objective 3, respectively, will form subcommittees responsible for carrying out each objective and preparing subsequent publications. An executive committee consisting of the chairman and coordinators of the three subcommittees will work together to facilitate coordination among the three objectives and may be designated to conduct the business of the committee between meetings and perform other duties as assigned by the technical committee.

Meetings

An annual meeting of the full technical committee will be held to summarize and critically evaluate progress, analyze results, and plan future activities, reports, and publications. Additional or special meetings may be called by the administrative advisor.

SIGNATURES

TITLE: PRODUCTION, MERCHANDISING, RETAILING AND CONSUMER
RESPONSES TO INNOVATIVE TEXTILES AND SEWN PRODUCTS

ADMINISTRATIVE ADVISOR

DATE

CHAIR, REGIONAL ASSOCIATION OF DIRECTORS

DATE

ADMINISTRATOR, COOPERATIVE STATE RESEARCH,
EDUCATION AND EXTENSION SERVICE

DATE

PROJECT LEADERS

<u>State</u>	<u>Principal of Co-investigator</u>	<u>Area of Specialization</u>
Alabama	Lenda Anderson, Ph.D	Mass Customization in the Apparel Market
Colorado	Molly Eckman, Ph.D	Merchandising and consumer behavior
Iowa	Grace Kunz, Ph.D	Merchandising and Product Development
Montana	Bernadette Tatarka, Ph.D	Apparel Product Design and Development
New York	Susan Ashdown, Ph.D	Apparel Design
Wyoming	Donna Brown, Ph.D	Apparel and textile production, perception
Wyoming	Bruce Cameron, Ph.D	Textile science, global textile market, environment, internet
Wyoming	Sonya Meyer, Ph.D	Apparel and textile production, retailing, merchandising

An Agricultural or consumer economist will be asked to join the project to provide for economic data analysis.

RESOURCES

<u>Participant</u>	<u>OBJECTIVES</u>			<u>RESOURCES</u>			<u>TY</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>SY</u>	<u>PY</u>		
				%Research%	%Teaching%	%Extension	
Alabama SAES Lenda Anderson		X	X		.1		
Colorado SAES Molly Eckman	X	X	X	40%	.15 60%	0%	
Iowa SAES Grace Kunz			X	25%	.1 75%	0%	
Montana SAES Bernadette Tatarka		X	X		.1		
New York SAES Susan Ashdown	X		X		.2		.5
Wyoming SAES Donna Brown	X	X	X	25%	.1 75%	0%	
Bruce Cameron	X	X	X	30%	.15 70%	0%	
Sonya Meyer	X	X	X		.1		
		25%	75%	0%			

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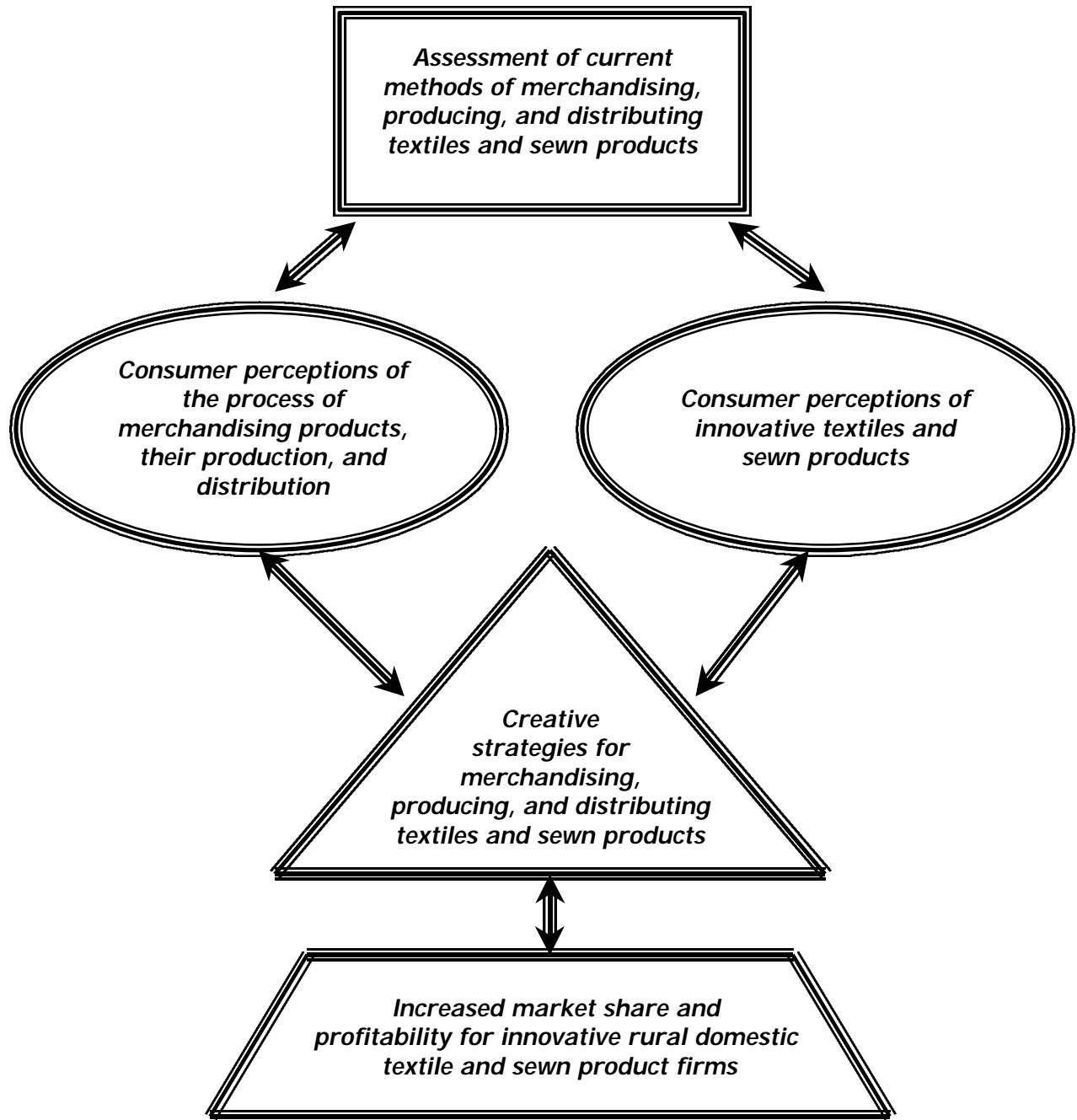
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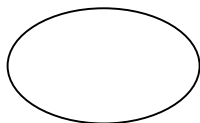
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Figure 1: Community Economic Development by Merchandising, Producing, and Distributing Textiles and Sewn Products



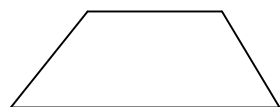
Objective 1



Objective 2



Objective 3



Outcome