EVALUATION OF EFFECTIVENESS OF USAID'S ASSISTANCE TO JAMAICA'S APPAREL INDUSTRY 1983-1992

FIRST DRAFT

Prepared for USAID Jamaica

By Dorothy J. Black and Beverly Dinham-Smith

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EXECUTIVE SUMMARY

Since 1983, USAID has helped Jamaica's apparel and sewn products industry to develop by providing training, technical assistance and marketing aid. The cost of USAID assistance to this industry through 1992 totals around US$2.4 million. The purpose of this evaluation is to assess the effectiveness and results of USAID assistance to Jamaica's apparel industry, in particular the extent to which it had a major positive or negative impact on the growth of the industry, the extent to which the assistance was cost effective and efficient and the extent to which the industry has matured and will require reduced levels of assistance in the future.

[Rest of summary will be added in final report]

I. HISTORY

The apparel industry has been the most dynamic sub-sector of Jamaica's manufacturing sector over the past ten years.[1] It grew from a small domestically oriented industry which employed less than 6,000 workers to an export-oriented industry which now employs over 25,000 people. Much of this growth resulted from targeted development assistance combined with preferential access to the U.S. market through the Caribbean Basin Initiative and the 807 program.[2]

The first garment factories were established in the 1950's, when the Jamaica Industrial Development Corporation (JIDC) was created to promote industrial development on the island. By the early 1970's, the garment industry had 140 registered factories and employed approximately 10,000 workers. Throughout most of the 1970's, the Jamaican Government pursued import substitution policies which used high protective tariffs and quantitative import restrictions to shield local industries from foreign competition. A

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[1] Jamaica's textile and apparel industry can be more accurately described as a "sewn products" industry. Production of textiles is minimal and primarily for the domestic market. One textile mill which produces cotton/polyester fabric and is jointly owned by the Jamaican and Chinese Governments hopes to produce export quality woven material. In general, however, Jamaican apparel factories import fabric, either cut or uncut, and assemble garments for export. The industry also includes a few companies which assemble luggage and bags.

[2] The 807 program takes its name from the U.S. tariff code number 807.0010, which permits components (in this case fabric cut in the United States) to be exported for further processing and then re-exported to the United States as finished products. Duty is levied only on the value added outside the United States. The 807A program originated in an amendment to the Caribbean Basin Economic Recovery Act in 1986. It provides special access (called Guaranteed Access Levels or GALs in the Bilateral United States-Jamaica Textile Agreement) for garments sewn in CBI countries from fabric formed and cut in the United States. In effect it almost eliminates quota restrictions on these products.

small, inefficient apparel industry producing primarily for Jamaica and CARICOM was the result. Except for a few firms which participated in the U.S. 807 program, the Jamaican apparel industry was not competitive on world markets. Garment exports in 1980 totaled $7 million, of which $2.7 million was 807 exports and $2.3 million went to CARICOM.

In the 1980's, Jamaican Government development policies shifted from import substitution to market-oriented export-led growth. In 1982, the government designated the apparel and sewn products industry as a priority development sector because of its potential for export growth and employment creation. Two important policy reforms in 1982 and 1983 set the stage for the industry's current export orientation. First, the government deregulated imports, exposing domestic producers to competition from abroad. Second, the government devalued the Jamaican dollar, making Jamaican exports more competitive in international markets. When quantitative restrictions were removed, manufacturers who had previously produced primarily for the local market found increased competition from imports. They also found new opportunities in export markets because the devalued Jamaican dollar made Jamaican wage rates attractive in the labor intensive apparel industry.

Another important factor stimulating growth in Jamaica's apparel industry was the U.S.-Jamaican Bilateral Textile Agreement. Under the GATT Multi-Fibre Arrangement (MFA), the export of textiles and garments worldwide is strictly controlled by bilateral agreements. The United States in particular, which is the world's largest market for garment imports, sets quantitative bilateral limits on apparel categories considered sensitive to its domestic industry. Pursuant to the United States' policy of supporting self-sufficient growth and development in neighboring Caribbean countries, as evidenced by the Caribbean Basin Economic Recovery Act of 1985 (CBI), the United States Government has consistently provided liberal access for Jamaican garment exports.

The United States and Jamaica signed the first Bilateral Textile Agreement in 1985. Amendments in 1986 incorporated the "807A" program, available only to CBI beneficiaries, which provided "Guaranteed Access Levels" for garments assembled in Jamaica from U.S. formed fabric cut in the United States. The bilateral agreement helped the Jamaican Government attract foreign manufacturers seeking guaranteed access to the U.S. market for the most sensitive apparel categories. It was renegotiated in 1988 to expand

product coverage and extend the expiration date. Amendments in 1989 and 1990 increased the annual quota level from 141.5 million Square Metre Equivalent (SME) to 166.4 and 181.7 million SME, respectively.

Technical assistance also played a key role in reorienting Jamaica's garment industry towards exports by developing the skills and quality standards necessary to compete on international markets. Through the National Industrial Development Corporation (NIDC), the Jamaican Government launched a program of assistance to the garment industry in 1981 which contained three components:

1. Kurt Salmon Associates (KSA) was hired by the Jamaican Government to set up a training program for associate engineers and sewing machine operators and to provide technical assistance to larger factories through half the trained associate engineers. Kurt Salmon also did diagnostic studies for several garment factories and the industry as a whole to determine where assistance was needed most.

2. The USAID-funded Parallel Program focused on the smaller Jamaican owned factories which did not receive aid from KSA and provided them assistance through the other half of the trained associate engineers. This program was the forerunner of the current Associate Engineer Program now run from JAMPRO for the entire industry.

3. USAID and Singer provided training to sewing machine mechanics, Singer at the H.E.A.R.T. Garmex training facility in Kingston and USAID through a training school in Montego Bay.

In the mid-1980's, the KSA program ended and was not renewed because of the high cost to the Jamaican Government. Working with JIDC, JNEC (Jamaica National Export Corporation), and JNIP (Jamaica National Investment Promotion), USAID developed a three-pronged package to meet the immediate needs of the industry. It provided technical assistance, training and investment promotion support. Technical assistance in engineering, quality control, and implementing systems was provided through short-term and long-term consultants. Training was accomplished by the consultants in individual factories, through a grant to a factory to hire trainers, through the mechanics school in Montego Bay, and through a $1 million grant from the Basic Skills Training Project to purchase equipment for the Garmex

Academy. Investment promotion and marketing aid was provided by assisting garment manufacturers to attend trade shows in the United States, in particular the Bobbin Show and 807 Marketplace, through funding the Caribbean Fashion Carnivale in Jamaica, and by utilizing the long term consultants' contacts in the U.S. garment industry.

Both improved economic conditions for apparel export and technical assistance encouraged new investment in the industry, while existing manufacturers found advantages in shifting to export production. At the beginning, most new investors went into 807 manufacturing and then gradually moved to CMT because it provides a higher value added. Foreign investors, primarily from the U.S. and the Far East, were attracted by the low labor costs and access to the U.S. market. Many foreign investors chose to locate in one of Jamaica's free zones because they permitted offshore financing and duty free import. Exports from the Kingston and Garmex Free Zones began to expand from 1984 onwards. The Montego Bay Free Zone developed somewhat later after the infrastructure was in place.

Employment in the industry peaked in mid-1988 at 32,000.[3] Because of damage caused by Hurricane Gilbert, which devastated Jamaica in September 1988, a number of factories were forced to close permanently, causing employment to drop sharply (see Table 2). By 1990, employment had recovered to around 24,500, almost 40 percent of which was in the three free zones--Kingston, Garmex and Montego Bay.

At present, apparel is Jamaica's leading non-traditional export and is second only to alumina in total foreign exchange earnings. Exports, 90 percent of which are to the United States, reached $281 million in 1990. The industry still suffers from a shortage of skilled operators, mechanics, and particularly middle management. Financing difficulties are also widespread due to macroeconomic conditions affecting the entire economy. The 1991 devaluation of the Jamaican dollar has had a very positive effect on most garment exporters, however, and 1992 may be the best year ever for many. The industry's transformation from a group of small manufacturers producing primarily for domestic consumption to a major export industry in only ten years testifies to its potential for growth and development in the future.

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[3] This figure was provided by JAMPRO.

II. CURRENT STATE OF THE INDUSTRY

Firms and Employment

Jamaica's apparel manufacturing industry can be broken into three main categories as follows:

Free Zones (Kingston and Montego Bay)	-	17 firms
Customs Territory, over 100 employees	-	21 firms
Customs Territory, under 100 employees	-	140 firms

These 199 firms account for total employment of 25,727 workers (see Table 1).[4] Large firms with over 100 employees account for the bulk of employment. The seventeen Free Zone firms employ 43 percent of the workers while Customs Territory firms with over 100 employees employ 45 percent. Smaller firms with less than 100 employees constitute 70 percent of the total but account for only 12 percent of employment.

Production

Apparel production as measured by Export Value Added[5]

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[4] The figures in Table 1 were provided by JAMPRO, which periodically polls apparel manufacturing firms to obtain data on actual employment. These figures include companies which employ less than ten workers, but do not include seamstress and tailor shops. The figures in Table 1 differ somewhat from the employment data in Table 2, which were derived from the Statistical Institute's annual survey of firms with over ten employees plus the Planning Institute of Jamaica's figures on Free Zone employment. Table 2 uses this measurement because the JAMPRO data are not available in a time series which permits comparisons over several years.

[5] This study measures production by estimating value added in exports. The Statistical Institute's National Income Accounts do not provide an accurate measurement for our purposes because they exclude production in the Free Zones, almost all of which is garment assembly. Since 100 percent of Free Zone factories' production is exported, as well as the bulk of Customs Territory factories' production except for

TABLE 1
Jamaica's Apparel Industry
Number of Firms and Employment
1992

	No. of Firms	% of Total Firms	Employees	% of Total Employment
I. Over 100 Employees				
Free Zones				
Kingston	10	5%	9,136	36%
Montego Bay Area	7	4%	1,813	7%
Subtotal	17	9%	10,949	43%
Customs Area				
Kingston	23	12%	6,533	25%
Montego Bay Area	8	4%	2,488	10%
Rest of Jamaica	11	6%	2,624	10%
Subtotal	42	21%	11,645	45%
II. Less Than 100 Employees				
Kingston	113	57%	2,532	10%
Montego Bay Area	9	5%	278	1%
Rest of Jamaica	18	9%	323	1%
Subtotal	140	70%	3,133	12%
III. Total	199	100%	25,727	100%

Source: JAMPRO

registered strong growth in the period 1984-1988. Estimated Export Value Added in apparel grew at an annual average of 67 percent during this period, reaching $65 million in 1988 (see Table 2).

Due in large part to losses related to hurricane Gilbert, production growth slowed in 1989. After increasing by 15 percent in 1990, overall apparel production was stagnant in 1991. Although Free Zone factories increased their production, it was offset by a decline in Customs Territory production. Customs Territory factories suffered more from disruptions in the local economy during 1991, particularly the 61 percent devaluation of the Jamaican dollar vis-a-vis the U.S. dollar and the high interest rates and price inflation which followed. Because Free Zone firms use offshore financing, they benefitted from the devaluation through lower labor and utility costs, but were insulated from the skyrocketing interest rates and domestic inflation. Customs Territory firms, on the other hand, depend on local financial institutions for investment and working capital as well as foreign exchange. By 1991, estimated Export Value Added totaled $82 million.

Productivity

With the exception of the year following hurricane Gilbert, productivity in the apparel sector as measured by Export Value Added has increased steadily since the early 1980's (see Table 2 and Chart 1).[6] Although Export Value Added measures only the productivity of export oriented firms, it is the best measurement for purposes of evaluating the effectiveness of USAID assistance to the apparel

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very small firms, value added in exports captures production throughout the industry. The Export Value Added figures in Table 2 were calculated by assuming that 807 exports to the United States have approximately 20 percent value added and CMT (cut, make and trim) exports have approximately 40 percent value added.

[6] Productivity is measured in Table 2 by total export value added divided by total employment. This measurement understates production and thus productivity to the extent that domestic production is omitted, but this is probably offset by a slight understatement in apparel sector employment figures taken from the Statistical Institute and Planning Institute data.

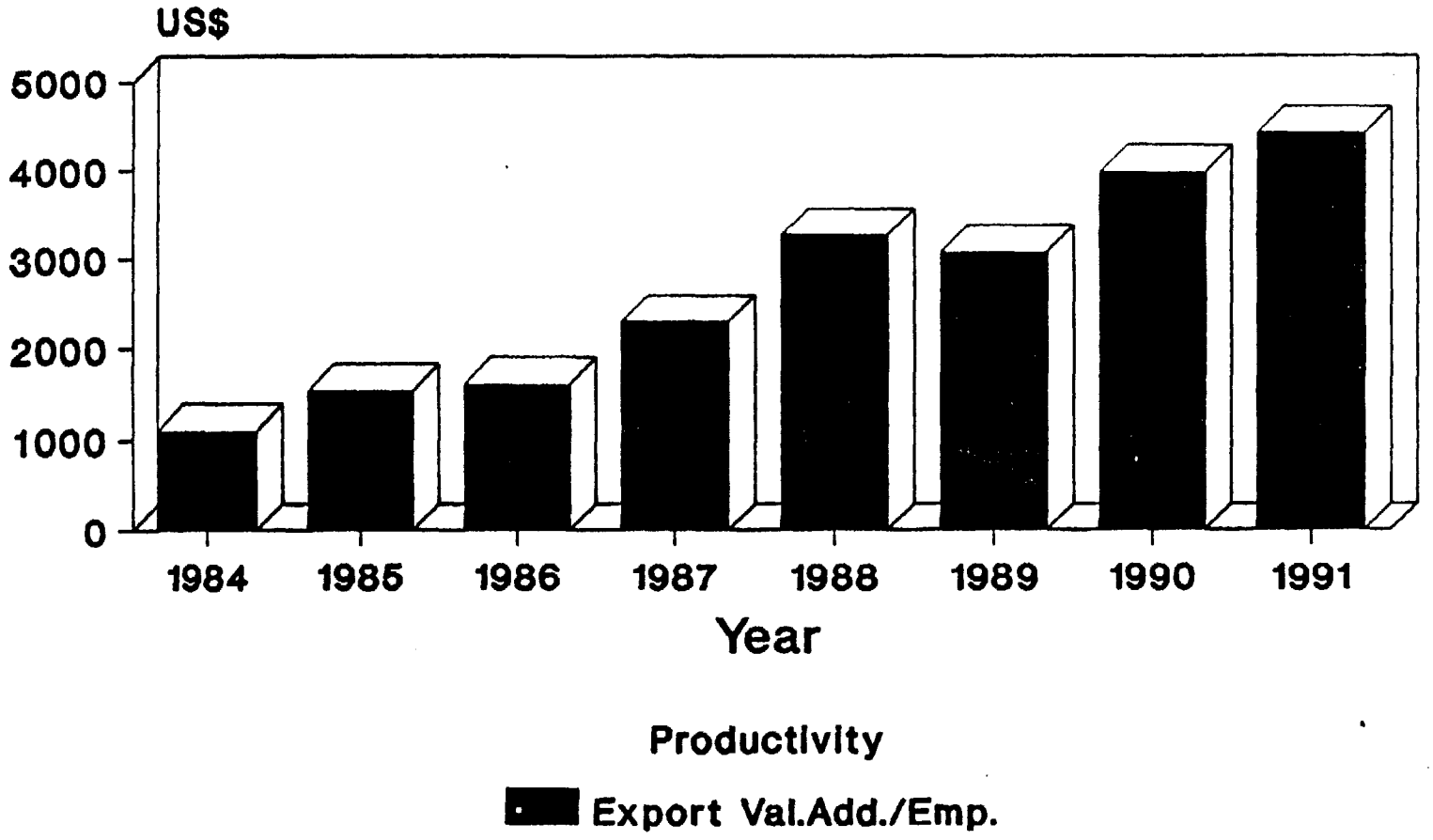
TABLE 2
Apparel Industry
Production and Productivity
1984-1991
(US$'000)

Year	Employment 1/ (No. workers)	Export Value Added 2/ 807	CMT	Total	Production 3/ % change	Productivity 4/ (US$ per worker)	Productivity % change
1984	8,118	2,981	5,979	8,960		1103.77	
1985	10,264	6,740	9,023	15,762	75.9%	1535.70	39.1%
1986	18,144	11,682	17,596	29,278	85.7%	1613.65	5.1%
1987	23,356	19,568	34,160	53,728	83.5%	2300.39	42.6%
1988	19,934	23,172	42,064	65,237	21.4%	3272.63	42.3%
1989	22,577	28,526	41,022	69,548	6.6%	3080.50	-5.9%
1990	20,147	29,267	50,995	80,262	15.4%	3983.81	29.3%
			5/	5/		5/	
1991	18,739	30,883	50,954	81,837	2.0%	4367.21	9.6%

1/ Employment figures are derived by adding employment in the textile and apparel industry (Stat. Inst.) to employment in Kingston Free Zone (PIOJ).
2/ Export Value Added is used as a proxy to measure production in the industry. 807 exports contain an estimated 20% of value added and CMT exports around 40%.
3/ Percent change in Export Value Added.
4/ Total export value added divided by total employment.
5/ Figures for 1991 CMT exports, total exports and productivity per worker are estimated because 1991 data for textile exports to non-U.S. destinations--all of which are CMT--are not yet available.

Source: JAMPRO and Statistical Institute of Jamaica

Chart 1
Apparel Industry Productivity



Source: JAMPRO and Statistical Institute

industry. A major objective of USAID assistance was to help Jamaica create an efficient and competitive apparel industry capable of substantial export growth. From 1984 to 1991, the annual average increase in productivity was 23 percent. When compared with U.S. garment workers, Jamaicans achieve on average 60-80 percent productivity, according to estimates by firm managers, but some experienced operators achieve up to 120 percent of U.S. productivity.

Another indicator of improved productivity in the apparel industry is the evolution of export product lines from the simplest 807 T-shirts, woven shirts, skirts and blouses with few operations to much higher value added product lines which require many more operations (collars, flat seams, buttonholes, etc. Fine Line Ltd. is an example. From very simple shirts, this factory has moved in just three years to producing for higher fashion companies such as the Gap, Tango and Duckhead. Liz Claiborne has contracts with five Jamaican firms, including East Ocean, Davon and Heflin Corporation. East Ocean's product lines have completely changed over five years, from very simple shirts to high quality and high fashion shirts, blouses, and warm-up suits with multiple complex operations. A comparison of pieces produced per operator per day (East Ocean's measure of productivity) five years ago and today is not useful because the garments are so different.

Another indicator of improved productivity throughout the industry is the increase in CMT as opposed to the simpler, lower value added 807 garments (see Table 2). Between 1985 and 1991, 807 exports--which have a value added of approximately 20 percent--increased an average of 72 percent annually. CMT exports--with a value added of about 40 percent (because the pattern making and cutting of the garment is labor intensive)--rose an average of 93 percent annually.

Quota utilization is also an indicator of improved productivity. (insert Beverly's analysis)

Return on Investment

Despite its rapid growth and development, Jamaica's apparel industry does not offer a high return on investment. Of five firms surveyed, two hope to make their first net profit in 1992, one has had profits in only two out of eight years, one estimated only that return on investment is "very low," and one estimated a return of around 20 percent. Out

of six financial statements from apparel manufacturers, four consistently reported negative net worth and negative net profits and two reported negative net profits during half the period during which figures were available. The precarious financial nature of the industry is further illustrated by closures and bankruptcies over the years, particularly in small Customs Territory firms. Nor are Free Zone factories immune from low rates of return. In 1991 four Kingston Free Zone factories closed.

Several firms attributed the low profitability to the overvalued Jamaican dollar during much of the 1980's. This made imported raw materials and Jamaican labor expensive relative to the export price of the garments. The 1991 devaluation has had a major positive effect on the industry. Several firms surveyed noted that the 1991 devaluation moved their balance sheets from net losses to net profits. One firm which employs over 1,500 workers remarked that, had the Jamaican dollar not devalued, his firm would probably have closed by now.

III. EXPORTS

Trends in Exports

The development of Jamaica's apparel export industry into the country's second most important foreign exchange earner is one of the success stories of the 1980's. In 1982, the apparel industry held an export share of only 2 percent, compared with 46 percent for alumina, 23 percent for bauxite, and 7 percent for sugar. In 1990, apparel held an export share of 21 percent, second only to alumina with 47 percent. Bauxite had slipped to 8 percent and sugar to 6 percent.

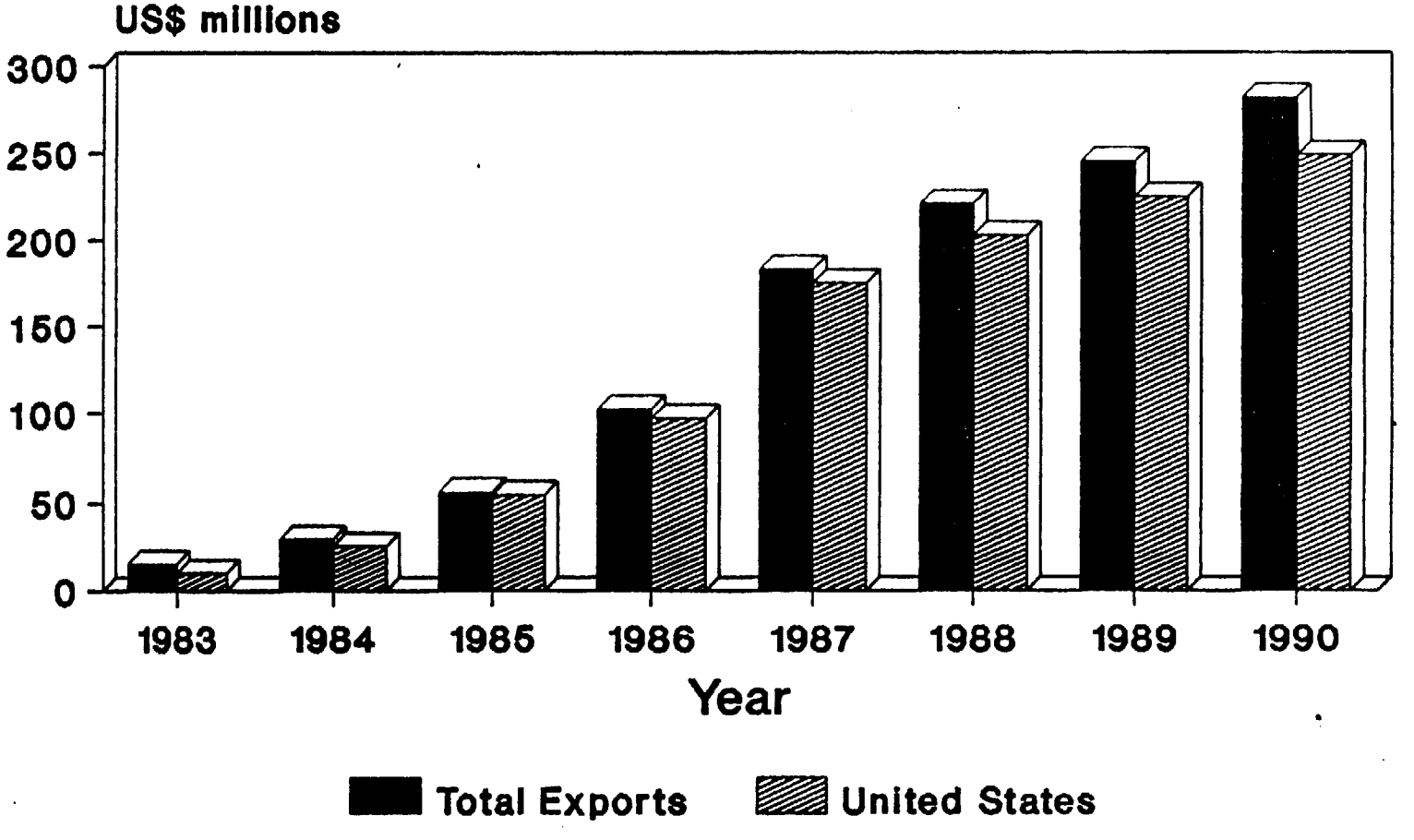
Between 1982-1990, exports grew at an average annual rate of 46 percent in value, increasing from $18 million in 1982 to $282 million in 1990 (see Table 3 and Chart 2). Growth rates have slowed since 1987, due to hurricane Gilbert in 1988, continued softness in the U.S. apparel market, and domestic economic problems in 1991. Based on interviews with firms to date, however, 1992 should be an excellent year. Not only has the devaluation has made Jamaican exports more competitive, but Jamaican firms now find the export market more attractive since they are permitted to keep and utilize the hard currency they earn.

TABLE 3
Jamaican Textile Exports by Destination
Free Zones and Customs Territory
1982-1990
(US$'000)

DESTINATION	1982	1983	1984	1985	1986	1987	1988	1989	1990
USA	12,212	10,254	26,020	54,455	97,166	175,611	202,705	225,189	248,934
Free Zones	816	3,258	10,559	26,448	46,040	80,866	103,189	103,072	124,033
Customs Territory	11,395	6,996	15,461	28,007	51,126	94,745	102,515	122,117	124,901
CARICOM (Cust. Terr.)	5,433	4,911	2,610	725	819	1,841	1,199	2,015	1,387
European Community	1	23	--	309	3,479	2,808	10,236	15,866	27,760
Free Zones	--	--	--	309	3,357	2,808	10,215	15,830	27,760
Customs Territory	1	23	--	--	121	--	21	36	--
Canada	4	3	218	235	505	1,257	2,188	1,146	2,803
Free Zones	--	--	--	--	--	100	1,132	997	2,500
Customs Territory	4	3	218	235	505	1,157	1,055	149	303
Other	571	641	1,006	531	430	1,722	4,694	970	1,018
Free Zones	1	0	0	0	0	1,065	1,344	649	650
Customs Territory	571	641	1,005	530	431	657	352	322	367
GRAND TOTAL	18,221	15,832	29,854	56,255	102,399	183,239	221,022	245,186	281,902
Free Zones	817	3,258	10,559	26,757	49,397	84,839	115,880	120,548	154,943
Customs Territory	17,404	12,574	19,294	29,497	53,002	98,480	105,142	124,639	126,958

Source: JAMPRO and Statistical Institute of Jamaica

Chart 2
Jamaican Apparel Exports



Source: JAMPRO and Statistical Institute

The United States is by far the largest market, accounting for over 90 percent of Jamaica's apparel exports since 1984. The 807 program still accounts for around 60 percent of total exports to the United States, but the mix is different between Free Zone firms and Customs Territory firms (see Table 4 and Chart 3). In 1991, 807 products accounted for only 40 percent of Free Zone U.S. exports, but they were 88 percent of Customs Territory exports. Free Zone firms are generally larger and better financed than Customs Territory factories, and many are subsidiaries of foreign companies. Thus they able to handle the more complex operations involved in CMT exports.

Since 1986, Jamaica has diversified its exports to other markets, primarily Canada and the European Community (see Table 3). Apparel exports to the European Community grew from only 3 percent of the total in 1986 to 10 percent ($28 million) in 1990. The Jamaican Government encouraged exports to Europe through the "diversification program," under which it considered exports to diversified markets as one factor when allocating quotas for the U.S. market. Exports to Canada are still only 1 percent of total exports, but the total has grown from only $500,000 in 1986 to $2.8 million in 1990.

Exports to CARICOM--which in 1982 were second only to the United States--collapsed in 1985 when Trinidad and Tobago virtually banned imports because of foreign exchange problems. The CARICOM market has recovered to some extent, but still accounted for less than one percent of exports in 1990.

As noted above, value added in exports grows as firms move from 807 exports to the more complex CMT operations. 807 exports average around 20 percent value added while CMT operations bring approximately 40 percent value added. Chart 3 shows how the 807 and CMT components of exports to the United States have increased since 1983.

Trade Agreements Affecting Apparel Exports

The major trade agreements which affect Jamaica's apparel and sewn products exports are the United States-Jamaica Bilateral Textile Agreement (see above Section I), the Multi-Fibre Arrangement (MFA) in the GATT, and the Lome Convention, which provides duty free and quota free access to European markets. The bilateral U.S.-Jamaica agreement

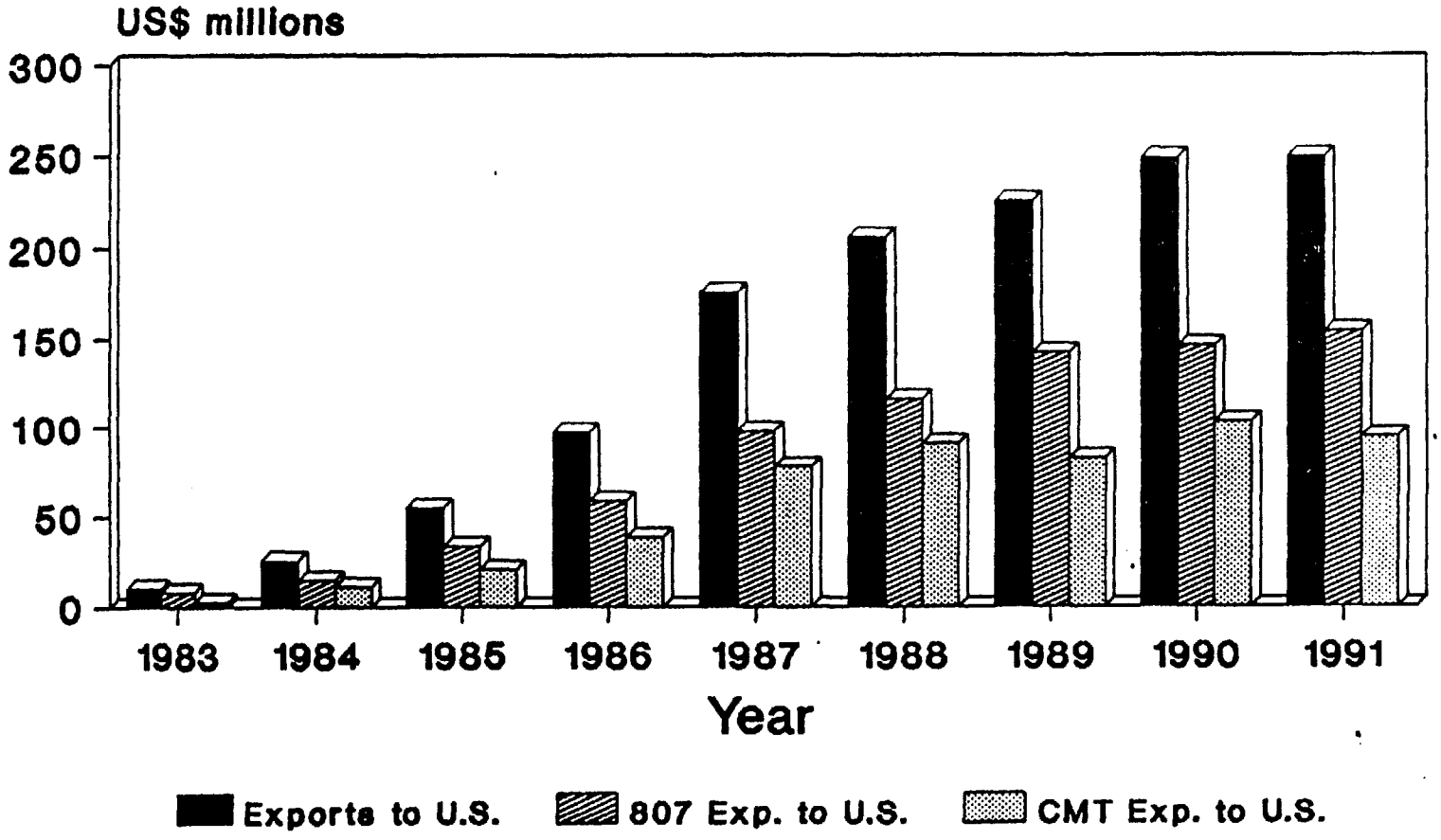
TABLE 4
Jamaican Textile Exports to the United States
807 and CMT 1/
1982-1991
(US$'000)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Textile Exports to United States	12,212	10,254	26,020	54,455	97,166	175,611	205,705	225,189	248,934	249,298
of which:										
807	8,612	7,846	14,906	33,698	58,408	97,839	115,861	142,630	146,335	154,415
CMT	3,600	2,408	11,114	20,756	38,758	77,772	90,795	82,559	103,256	94,882
Free Zones	817	3,258	10,559	26,448	46,040	80,866	104,141	103,072	124,691	135,423
of which:										
807	817	1,110	2,245	7,414	10,325	18,465	28,595	33,578	36,990	53,756
CMT	--	2,148	8,314	19,033	35,715	62,401	75,546	69,494	87,700	81,667
Customs Territory	11,395	6,996	15,461	28,007	51,126	94,745	102,515	122,117	124,901	113,875
of which:										
807	7,795	6,736	12,661	26,284	48,083	79,374	87,266	109,052	109,345	100,659
CMT	3,600	260	2,800	1,723	3,043	15,371	15,249	13,065	15,556	13,215

1/ "807" refers to outward processing trade with the United States; CMT means cut, make and trim.

Source: JAMPRO and Statistical Institute of Jamaica

Chart 3
807 and CMT Exports



Source: JAMPRO and Statistical Institute

has helped Jamaica attract new investment in its apparel industry by offering guaranteed access to the U.S. market.

In the textile working group of the Uruguay Round of multilateral trade negotiations, GATT parties are discussing how to dismantle the system of MFA bilateral textile agreements in order to liberalize trade in textiles and apparel. Jamaica and other developing countries with emerging apparel export industries fear that they will not be able to compete with Far Eastern exporters--particularly China--if and when the system of quotas for textile and apparel imports is eliminated. Jamaica would like to see the MFA phased out over a fifteen year period rather than the ten years proposed in the Uruguay Round discussions. At present, Jamaica's Chief Textile Negotiator Peter King noted, the MFA has been extended for another 18 months, and the Uruguay Round proposal has been extended to a 12 year phase out period, which gives Jamaica some additional time to adjust to Far Eastern competition.

The North American Free Trade Agreement (NAFTA) currently being negotiated between Mexico, Canada and the United States also poses challenges for Jamaica's apparel sector. Currently, Jamaican apparel exports to the United States carry a duty of 21 percent on cotton goods and 25 percent on man-made fiber garments. The 807 program permits the cut parts to be re-exported to the United States duty-free, so that only the value added in Jamaica is dutiable. The Jamaican Government fears that if all quotas and duties are removed from Mexico's apparel exports, Jamaica will lose its comparative advantage of preferential access to the U.S. market under the CBI, and will be at a competitive disadvantage in terms of duties. Mexico already enjoys the advantage of lower shipping costs because of proximity to the U.S. border.

NAFTA discussions are on-going and are not likely to be concluded before the end of 1992. At present, negotiators have agreed in principle on the "yarn forward" rule for the textile and apparel segment of NAFTA. This is a strict rule of origin concept, under which apparel exports would receive quota- and duty-free treatment only if made entirely from fabrics and material originating in North America. The concept is similar to the CBI 807A program, but goes further by eliminating duty on value added as well as re-exported components. Jamaica fears that this additional advantage, coupled with Mexico's large, low cost labor pool and transport cost advantage will result in a shift of apparel industry investment away from the Caribbean and into Mexico.

At this point, it is difficult to predict the impact NAFTA will have on Jamaica's apparel industry because there are so many unknown variables. First, the provisions of NAFTA itself are still being negotiated. For example, although the yarn forward concept appears to be the basic principle for liberalized apparel trade, the phase-in period had not yet been determined. Caribbean lobbyists are hoping for a phase-in period of as much as a decade, by which time the apparel trade will be more affected by changes in the MFA regime than from the NAFTA.

Second, the Congress and Administration both favor development of the Caribbean. Thus it is possible that the United States will extend NAFTA duty-free concessions, once negotiated, to the CBI.

Third, the effects of NAFTA itself on Mexico's wage rates and labor force are unclear. The president of Mexico's apparel manufacturer's group predicts that within ten years the wage difference between Mexican and U.S. apparel workers will no longer be "substantial."[7] He said Mexican apparel workers currently earn between $70 and $100 per week compared with approximately $280 for U.S. apparel workers. NAFTA will attract not only investment in the apparel industry but also in higher paid industries such as automobiles and electronics, affecting overall labor costs commensurately.

Finally, Mexico's apparel industry already dwarfs Jamaica's, yet Jamaica has achieved impressive growth. Mexico has 17,000 apparel producing units (95 percent of which are small "cottage industries") compared with only 200 in Jamaica. The sector employs 620,000 workers, compared with Jamaica's 25,000.

It is unlikely that NAFTA will cause disinvestment from Jamaica. Companies who have already invested in factories and training are likely to stay. NAFTA could influence the direction of future investment in the industry, but firms investing abroad weigh many factors before coming to a decision. The quota-free duty-free treatment NAFTA will probably offer under the "yarn forward" concept will be only one of those factors.

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[7] Joanna Ramey, *Women's Wear Daily*, May 21, 1992 at 2.

IV. USAID ASSISTANCE TO JAMAICA'S APPAREL SECTOR

USAID has provided a total of approximately $2.5 million to Jamaica's apparel and sewn products industry since 1983 under two projects, the Technical Consultations and Training Grant (TC & TG) and the Export Development and Investment Promotion Project (see Table 5). An additional $1 million was given to the H.E.A.R.T. Garmex Academy for the purchase of equipment and training under the Basic Skills Training Project.

Technical Consultations and Training Grant Project

USAID first began assisting Jamaica's apparel sector in 1983-84 under TC & TG. The goals of this project were broad. USAID was to provide technical assistance and training to industries with export potential to support the Jamaican Government's export-led structural adjustment program.

In the garment sector, Kurt Salmon Associates (KSA), hired directly by the Jamaican Government, trained 69 associate engineers in the JATAG program. Under what was known as the "Parallel Program," half of these engineers spent two years of subsequent in-plant training under the supervision of consultants hired by USAID in small and medium Jamaican owned apparel factories. They were trained in garment analysis, cutting, quality control, operations training and supervisory training. The program has evolved into the Associate Engineer division in JAMPRO, which uses these trained engineers to provide training services to the industry. The Associate Engineer program, to which two USAID funded consultants are assigned, assists approximately 190 plants annually with training and technical assistance. In FY1992, 16,632 employees received training.

Under TC & TG, USAID also gave direct grants to two private sector apparel manufacturers--one American owned and one Jamaican owned--to purchase consultancy and training services. Jamtex, a subsidiary of the U.S. firm Noel of Jamaica, received a grant of $400,000 in 1985-86 to hire six U.S. professional staff to train 40 Jamaicans as engineers, mechanics, supervisors, quality control personnel, and plant managers. Davon, a Jamaican owned factory, received a grant of $70,000 to hire a managerial/engineering consultant for around nine months. Neither of these direct grant programs was successful. Jamtex was closed in 1991 after Noel of

TABLE 5
US Aid to Jamaica's Apparel Sector
1983-1992
US$

Year	Amount	Main Activities
1983	55,000	Marketing
1984	25,110	Training
1985	220,000	
	(200,000)	Training
	(20,000)	Technical assistance
1986	404,850	
	(200,000)	Training
	(109,850)	Technical assistance
	(95,000)	Marketing
1987	342,400	
	(67,500)	Training
	(202,800)	Technical assistance
	(72,100)	Marketing
1988	318,437	
	(56,235)	Training
	(263,800)	Technical assistance
	(65,000)	Marketing
1989	297,400	Technical assistance
1990	293,992	
	(290,167)	Technical assistance
	(3,825)	Marketing
1991	292,175	
	(282,175)	Technical assistance
	(10,000)	Marketing
1992	232,651	
	(216,701)	Technical assistance
	(15,950)	Marketing
Total	2,482,015	

Source: USAID

Jamaica went into bankruptcy and was bought out by Gitano. Davon asked JAMPRO to remove and take over the consultant (hired directly by Davon) because he was disrupting rather than assisting the plant.

In 1986, USAID began to provide technical assistance through four long-term consultants, three in engineering and one in sewing machine mechanics. USAID funded a sewing machine mechanics program in Montego Bay with equipment purchases and the services of a consultant for two years. In 1989, this program was transferred from Montego Bay to the H.E.A.R.T. Academy at Kenilworth in Hanover, where it is still operating successfully with a Jamaican administrator and staff.

The long term consultants on the engineering side provided both training and technical assistance directly to factories. The most important and long-lasting services appear to be the introduction of new systems adapted to the Jamaican culture. These include statistical quality control systems, cost analysis and pricing systems and production line balancing systems. The consultants also conducted supervisory training programs, wrote manuals on pay policy and labor laws, and assisted Jamaican firms with marketing through their contacts in the U.S. industry.

The third prong of the USAID program, after technical assistance and training, was help in marketing. TC & TG funded two Fashion Carnivale trade shows in Jamaica for the Caribbean apparel industry, paid for Jamaican Government marketing programs through JNIP and JNEC, and sent Jamaican manufacturers to U.S. garment industry trade shows.

Export Development and Investment Promotion Project

When the TC & TG program ended in 1990, the follow-on project, Export Development and Investment Promotion (EDIP), continued assistance to export oriented industries but with more specific objectives. The project goal was to promote growth with equity. The project purpose was to increase exports and diversify investment. The project strategy to accomplish these goals and objectives was to address specific constraints to export growth and investment. In the apparel industry, these included low productivity, inefficient production planning, lack of marketing expertise--inadequate understanding of supply capability, poor distribution networks, and unrealistic cost analysis--and lack of skilled workers, particularly in middle

management and in more complex skills such as cutting, fabric analysis and fabric design.

To date, EDIP has financed three long-term engineering consultants, contributed to costs of sending a Jamaican delegation to the important Bobbin Trade Shows in Atlanta and Miami, and purchased around $30,000 in equipment for a Bureau of Standards laboratory to detect textile fraud. EDIP also introduced a cost-recovery program. JAMPRO, the project implementing agency, now charges private firms who use the USAID consultants a fee for services, which helps cover costs of housing, transport and secretarial services for the consultants. The private companies who attend the trade shows under JAMPRO auspices also pay part of the costs.

V. EVALUATION OF EFFECTIVENESS OF USAID ASSISTANCE

When USAID agreed to provide assistance to Jamaica's apparel industry in the early 1980's, the sector was targeted to lead the country's export diversification program because of its potential to create employment and earn foreign exchange. At the same time, small and medium sized Jamaican factories were struggling to survive in the face of a smaller domestic market, higher import competition, low productivity, shortage of capital and lack of experience in international marketing. Thus the aid was intended to help Jamaica in two ways.

On the macroeconomic level, aid to the garment industry was to assist Jamaica to develop an internationally competitive export industry which would create employment and earn foreign exchange. At this level, the project objective (especially the EDIP project) was to help alleviate constraints on productivity. This objective was to be achieved both by policy dialogue--encouraging the Jamaican Government to implement policy changes to improve the environment for investment and exports--and technical assistance to help the industry overcome business inefficiencies and shortages of trained personnel.

On the microeconomic level, USAID focused on assistance to individual, mainly Jamaican, firms who needed access to modern production technology, help in training operators, supervisors and managers, and aid in tapping overseas markets. An evaluation of the effectiveness of the assistance must consider both objectives.

Macroeconomic Impact

Jamaica's apparel industry has achieved impressive macroeconomic growth in the past ten years. The history and current state of the sector are set out in detail above. In brief, employment has expanded by 170 percent, exports have grown fourteenfold, and apparel is the country's largest non-traditional export and second largest export. On the other hand, the apparel industry has not been profitable for many firms, which have low return on investment or consistent losses.

Based on discussions with government officials and interviews with firms, USAID assistance has definitely played an important role in the macroeconomic development of Jamaica's apparel industry. Policy dialogue throughout the 1980's improved the climate for export-oriented industry and foreign investment. It encouraged the government to reduce import and export controls, rationalize the complex tax system and, most recently, liberalize the foreign exchange regime. The devaluation and foreign exchange retention scheme introduced within the past year has had a major positive impact on export profitability.

USAID assistance over the period has also helped but not totally relieved the constraint of lack of managers and skilled workers. The Parallel Program trained engineers whom factory owners characterize as the best trained middle managers in the industry. Some are working at JAMPRO in the Associate Engineer program, others are plant managers in factories. The only problem is there are not enough of them, and existing programs are not training a new generation to take their place. The USAID funded mechanics school helped relieve the shortage of sewing machine mechanics, but again not enough are being trained to fill the needs of the growing industry. USAID provided around 250 sewing machines to equip the Garmex Academy to train operators. At present around 70 operators are being trained in a 12 week program, but the industry could absorb 100 per week.

While it is clear USAID assistance has had a positive macroeconomic impact on the apparel industry, it is difficult to measure this impact. Other factors, such as the liberal quotas granted under the bilateral U.S.-Jamaica textile agreement, also played a role in the industry's expansion. Moreover, other agencies besides USAID, most notably KSA, contributed to the apparel sector's

development. To what extent USAID assistance as distinct from other factors contributed to the growth is not measurable on the macroeconomic level.

Microeconomic impact

Because of the difficulty in measuring the macroeconomic impact, the authors of this evaluation decided to focus on the microeconomic side, the effect of USAID assistance on the individual firms who received aid. [Seven] firms which received various types of USAID funded help were chosen for interviews. Interviews were based on a questionnaire developed by the consultants, included as Annex I. In the interviews, firm representatives were asked specifically what impact USAID assistance had on the company's productivity, marketing efforts, and employees' skills. Results of the interviews by firm are included in Annex II. Table 6 summarizes the change in exports and productivity by the firms interviewed.

1. Impact on Productivity

Productivity is measured in several ways by apparel manufacturers. The first is pieces per machine per day. This measurement incorporates absenteeism as a constraint on productivity (if a worker is absent, the machine is idle) and permits a cross-country comparison with garments of the same or similar style. It does not measure productive gains when operators become sufficiently skilled to handle more complex pieces, however. The second measurement is SAM (Standard Assembly Minutes). Each operation is assigned the number of minutes a standard operator (usually a U.S. operator) requires to complete it. Then the number of operation minutes are added together to determine the standard production time for each garment style. This measurement incorporates the complexity of the garment and permits cross-country comparisons.

The third measurement, used in this study, is operator efficiency, or what percentage of target production an average operator can achieve. This measurement is a variation of SAM, as targets are generally set based on the SAM of an apparel line and then adjusted for the level considered achievable in a particular plant. This measurement was chosen for our evaluation because it permitted us to obtain comparable data from the firms surveyed regardless of the product line. We supplemented

TABLE 6
Changes in Productivity and Export Sales
Firms Interviewed

Company (Startup year)	Productivity (% operator efficiency) First Year	1991	% change	100% Operator Efficiency (% of U.S. Operator Efficiency)	Export Sales (US$'000) First Year	1991	% change
La Moda (1985)	30%	75%	150%	75%	$414	$800	93%
Noel of Jamaica (1990)	70%	84%	20%	70%	$18,000	$30,000	67%
Airwatt (1987)	55%	97%	76%	95%	$0	$68	
Crimson Dawn (1988)	80%	85%	6%	65%	$45	$131	191%
Fine Line (1989)				60%	$500	$2,000	300%
Davon (1980)	60%	75%	25%	80%			
Apparel Export (1984)	40%	85%	112%	75%	$53	$454	757%

Source: Consultant Interviews

this information by asking how 100 percent efficiency in the surveyed firm's plant compared with 100 percent efficiency in a U.S. plant.

The results of the survey are summarized in Table 6. All of the firms who received USAID assistance reported increased employee productivity. Two firms more than doubled their productivity over a seven year period. Three others achieved between 20-76 percent increases over varying periods. One had only a 6 percent increase, but started at 80 percent operator efficiency.

All but one of the firms attributed a substantial part of the increased productivity to USAID assistance. The programs that were consistently mentioned as successful were the long term consultancies accessed out of JAMPRO and the USAID Parallel Program (training of associate engineers.) Clearly unsuccessful were the 1986-87 grants to two private firms for consultancy services. One firm has since closed, and the other dismissed the consultant before his contract was finished. Since the quality of a long term consultant is critical for success of this type of technical assistance, the most likely explanation for the failure of the private consultant grants was that the firms were unskilled in recruitment.

Services by long term consultants that had the most effect on productivity included training supervisors, implementing statistical quality control systems, cost control systems, and line balancing systems. Several firms had hired engineers trained in the USAID Parallel Program, and found them very well trained and valuable employees who helped improve productivity.

2. Impact on Exports

Table 6 shows major gains in export sales by firms which received USAID assistance. With one exception (a firm who is just starting to export now that the devaluation has made the export market attractive), all reported increases ranging from a low of 67 percent over two years to a high of 757 percent over eight years.

USAID assistance which helped these firms increase their exports included implementation of statistical quality control systems, improved costing and pricing, and help in marketing.

U.S. companies are very quality conscious, and if an exporter's quality control is below standards they will quickly move to another source. A USAID consultant helped one firm raise its J.C. Penney quality control rating significantly.

On the marketing side, USAID assistance has helped both by bringing Jamaican manufacturers in contact with customers through trade shows such as the Bobbin Show and the Fashion Carnivale and by bringing long term consultants to Jamaica who have valuable personal contacts in the U.S. industry. One firm obtained its two largest customers through direct referral by a USAID consultant. Another always introduces prospective customers to the USAID consultants because having reassurance from an American with long experience in the U.S. industry reassures them they will receive the quality products they expect. A third made one direct contact for an important 807A export contract at the Miami Bobbin Show and cemented another.

Another contribution the USAID consultants make to Jamaica's exports is investor assistance. One consultant at JAMPRO spends 10-20 percent of his time with prospective foreign investors in Jamaica. One firm interviewed [Jamaica Bow--Beverly will interview] which has just begun operations in Montego Bay with 120 employees decided to invest in Jamaica after being assisted by the USAID consultant.

In sum, on the microeconomic side the firm interviews revealed concrete evidence and measurable results showing USAID assistance to Jamaica's apparel industry has had a positive impact on sectoral development.

Comparison with Other Caribbean Countries

Jamaica's major Caribbean competitors in the 807 market are the Dominican Republic, Costa Rica, Haiti and Honduras. Table 7 provides comparative statistics for population, labor force, 807 exports, wages and labor productivity, insofar as information is available in Jamaica.

Of the countries compared, the Dominican Republic is the largest exporter of 807 products. It also has the largest labor force (not including Mexico). Mexico is the second largest 807 exporter, Costa Rica third, Haiti fourth, and Jamaica fifth. Honduras, with $90 million in 807 exports, is sixth.

TABLE 7
Comparative Statistics
1990

	Jamaica	Dom. Rep.	Costa Rica	Honduras	Haiti	Mexico	United States
Language	English	Spanish	Spanish	Spanish	French	Spanish	English
Population ('000)	2,415	7,200	2,736	4,758	6,200	84,500	246,330
Labor Force or Employment ('000)	1,059	4,000	1,026	1,406	2,400	25,400 1/	118,000
807 Exports (US$ mil.)	$146.3	$570.9 2/	$340.9 2/	$90.0 2/	$167.0	$475.0 3/	--
Hourly wage plus fringe (US$)	$0.63	$0.75	$1.09 2/	$0.60	$0.58 2/	$1.57 3/	$13.92 3/
Labor Productivity (% of U.S.)	80-85%	80-90%	80%	80-85%	80%	80-85%	--

1/ 390,000 are employed in the garment industry.
2/ 1989 figures.
3/ 1988 figures.

Source: Bobbin Magazine and Financial Times.

The only comparative figures on export growth rates available to the authors was for the period 1985-1988. During this period, only Costa Rica's 807 exports grew faster than Jamaica's. Costa Rica's 807 export growth rate was 295 percent, Jamaica's was 190 percent, the Dominican Republic's was 173 percent, Haiti's was 51 percent, and Honduras's was 19 percent. Total 807 apparel exports from 21 CBI countries in 1988 totaled $1,748 million. The Dominican Republic dominated the 807 market, with a share of 38 percent, followed by Costa Rica with 18 percent. Jamaica had a 14 percent share. However, Jamaica's 807 exports were only 56 percent of its total apparel exports, while the 807 program constituted 91-96 percent of the other countries' apparel exports.

Jamaica also compares favorably with other Caribbean producers in terms of labor productivity. The figures in Table 7, from the annual Bobbin Magazine 807/CBI Comparative Analysis, show Jamaica's labor productivity at 80-85 percent of the United States'. Honduras and Mexico rate the same, Costa Rica and Haiti rate slightly lower, and only the Dominican Republic rates higher at 80-90 percent.

VI. CONCLUSION

Summary of Results

The results of the evaluation can be summarized as follows:

1. Jamaica's apparel sector has developed from a small cottage industry producing primarily for the protected local and CARICOM markets to an internationally competitive export industry with export sales of almost $300 million annually.

2. On the macroeconomic level, USAID's policy dialogue and $2.5 million in assistance to the sector had a major positive effect. It improved the climate for investment in export industries and helped to alleviate constraints such as the exchange rate disincentive to exports, lack of skilled operators and middle management, lack of marketing expertise, and inefficient production planning.

3. On the microeconomic level, USAID assistance had a measurable effect on productivity in individual firms who were helped. The most cost-effective form of aid was through carefully selected long term consultants assigned to JAMPRO who provided individualized assistance to around 40 Jamaican firms annually who had problems but also had the potential to export. The assistance varied from training and technical assistance in quality and cost control to marketing through trade shows and individual contacts.

4. USAID funded long term training assistance, primarily the $1 million equipment for the Garmex Academy and the Parallel Program for associate engineers in conjunction with KSA, filled a very clear industry need. However, as the industry expands, the demand for trained operators and middle management grows. The Parallel Program has terminated and Garmex is not training nearly enough workers to fill this demand. Unless steps are taken to build upon the foundation laid in this sphere of training assistance, the positive impact of the aid will not be sustained.

5. The USAID grants to two private firms for training and technical assistance were expensive and, ultimately, ineffective. They were expensive because $470,000 out of a total $2.5 million was spent on only two firms, whereas each JAMPRO consultant, at around $100,000 per person per year, is able to help 40 or more firms annually. They were ineffective because one firm eventually closed down, and the other found the consultant it hired had a more negative than positive effect on the factory. This type of assistance should not be repeated.

6. On the marketing side, every firm surveyed who had attended the Bobbin Show in Miami or Atlanta found it an extremely cost effective means of obtaining contracts as well as technology transfer. With the current cost-sharing program, USAID's contribution of around $15,000 helps to send as many as ten firms to the show.

7. Finally, despite the progress made to date, the industry still has problems. According to the firms interviewed, foremost among these problems are a continued shortage of skilled operators, middle management and qualified engineers; the high cost of local capital; the need for continual marketing to

maintain a high volume of production, particularly in the 807 field; and the cost of inefficient Jamaican bureaucracy, particularly Customs.

Sustainability of the Program

At some point, USAID will phase out its assistance to the apparel industry. This raises the question whether the positive impact of past aid will be self-sustaining. The answer depends on the extent to which the aid has created Jamaican skills and institutions which will survive the phase-out.

The JAMPRO Textiles and Sewn Products Engineering Unit is a good example of USAID-funded assistance which has become self-sustaining. This unit grew out of the KSA and AID associate engineer training program of the early 1980's. Staffed primarily by graduates of these training programs (and including the two USAID-funded long term consultants), this unit now conducts its own technical assistance and training program for the industry. In 1991 it reached 190 companies with various types of assistance.

On the other hand, the Garmex Academy is an institution which has not maintained its earlier momentum. Although it received $1 million in equipment and training assistance, the facility is underutilized and does not meet the industry's training needs. First, recruitment is insufficient to fill the demand for new operators, given the high turnover endemic in the industry. Second, the training itself does not always meet manufacturers needs. The two most important aspects of operator training, according to some plant managers, are to instill a "work ethic" (i.e. the importance of regular attendance at work and arriving on time) and to teach basic skills of machine operation. The manufacturers themselves train operators the basics of their particular product line. With a shorter training period and better recruitment, Garmex should be able to train more operators.

The technical assistance and training provided to individual firms is self-sustaining as long as the company continues to operate with the same management or, at the training level, the same employees. Some firm managers noted that supervisory training should be repeated approximately every six months because of workforce turnover and the need to reinforce some aspects of the training. However, the JAMPRO engineering unit could assume

responsibility for reinforcement training once USAID assistance comes to an end. Several firms interviewed said the Jamaican companies which are still in operation are, by and large, the ones which have benefitted from USAID consultant assistance.

The USAID assistance on the marketing side which introduced Jamaican firms to the Bobbin Show will be self-sustaining because most firms who have attended under USAID/JAMPRO auspices plan to continue attendance even if they must finance it themselves. Their recommendations will also promote this marketing tool.

Action Plan for Future USAID Assistance to the Apparel Sector

Jamaican negotiators in the Uruguay Round estimate that the Jamaican apparel industry needs at least fifteen years to be able to compete on the world market without the protection of bilateral quotas. USAID assistance to date has helped move the industry towards international competitiveness by improving productivity and employee skills. However, a gap still exists between the large, mostly foreign-owned factories which bring modern production technology with them and the medium and small mostly Jamaican owned firms which may not survive without subsidized assistance to teach them the same technology. Since USAID's ultimate goal is to create a self-sustaining indigenous apparel industry which will stay in Jamaica and stimulate other industrial development, we recommend continuing USAID assistance to this sector for several more years. The proposed action plan is as follows:

1. Long-term Consultants:

At present, USAID finances two long-term consultants, one in Montego Bay and one in Kingston. The firms interviewed--mostly small, Jamaican-owned apparel companies--found these consultant services improved productivity, employee skills, and access to the U.S. market. The companies now pay a nominal fee for access to these services, and most said they would be willing to pay more to the extent they could afford it. We note that 1992 appears to be a critical juncture for many Jamaican apparel exporters. The devaluation and currency liberalization have finally made exporting profitable for small firms with past operating losses. These firms will need two to three years of profits to

put themselves on a sound financial footing, and are thus unlikely to be able to afford the full cost of technical assistance immediately.

We therefore recommend the two USAID-funded long-term consultancies continue for two to three years. The fees charged should gradually be increased until they are slightly less than the cost of similar training and technical assistance which is commercially available. When the consultants finally depart, companies needing continued help should then be able to obtain it through commercial sources.

2. Advanced Short-Term Training for JAMPRO Associate Engineers:

As Jamaican apparel exports shift from predominantly 807 to the higher value added CMT, the JAMPRO Sewn Products Engineering Unit has noted a shift in the demand for training. Factories now want to train their operators and engineers in pattern making, cutting room engineering, fabric design, and handling of different types of fabrics (e.g. knits vs. woven fabric). Since the Engineering Unit has institutionalized the dissemination of past USAID-funded training skills, educating these trainers in advanced skills of cutting room engineering would be a cost-effective way of upgrading skills throughout the industry. We therefore recommend USAID fund a series of short-term advanced courses for Engineering Unit personnel over the next two years, either by bringing trainers to Jamaica or by sending the Associate Engineers to the United States. This could be supplemented by helping JAMPRO or another appropriate institution purchase training films and documentaries as exhibited at the Bobbin Show which could be kept in a library available to factories.

3. Privatizing Garmex:

Company representatives universally agreed that Jamaica's apparel industry is still plagued by a shortage of skilled operators, mechanics, and engineers. Yet the Garmex Academy, which contains the ideal infrastructure (machinery, equipment, lecture rooms, etc.) to launch an integrated training and development program for the sewn products industry, is grossly underutilized. We therefore recommend that USAID help to privatize the Garmex Academy. This would create a self-sustaining institution insulated from

local politics which is responsive to the industry's needs.

Privatization of Garmex will require the Jamaican Government's concurrence and support. We propose USAID and the Jamaican Government work with the sewn-products industry to form a co-operative of manufacturers who would eventually purchase and operate the facility. A core group of at least ten companies could form a limited liability corporation to prepare a five-year development plan for the institution. With the industry's needs in mind, the plan would address the ideal curriculum of an integrated training institution: basic training requirements (management and skills), special services (cutting, computer-aided pattern-making and grading), and marketing assistance. It would also address the technical assistance necessary for start-up.

Once the program is developed, the corporation would approach the government for permission to purchase and operate Garmex. Issues which would have to be resolved include: how current Garmex staff would fit into the new program, H.E.A.R.T./NTA's overall agenda for vocational training and how privatization would affect it, and funding and technical assistance available for the new endeavor.

Garmex could be linked with other existing institutions such as C.A.S.T. or the Institute of Management and Production (IMP). Linkages with U.S. colleges and institutions offering accredited courses in apparel management and production could also be established.

After the initial steps are taken to organize an industry group, develop a program and obtain Jamaican Government support, USAID's role could be to provide a consultant for approximately one year to implement the program and get the private training institute off the ground.

4. Bureau of Standards:

USAID has already financed the purchase of equipment for the Bureau of Standards to offer fabric analysis on a fee for service basis. A local fabric evaluation facility provides protection against inadvertent fabric mislabeling, which is considered fraud by U.S. Customs. We recommend USAID continue to help the Bureau of

Standards develop their fabric testing capability by training operators in proper use of the equipment.

5. Policy Dialogue:

a. Exchange Rate: Exchange rate liberalization, supported by USAID's on-going policy dialogue, has put Jamaica's apparel export industry on a much more competitive footing over the past year. In particular, the return on investment in the industry, which has been quite low, should improve if the exchange rate remains competitive. In the context of policy dialogue, USAID should closely monitor developments in this area, giving continued currency liberalization high priority.

b. Customs: Free Zone companies considered the delays, excessive paperwork, and uncooperative attitude of Jamaican Customs the single greatest constraint on development in the apparel industry. In particular, Customs' inflexibility greatly inhibits backward linkages into the Jamaican economy. Free Zone companies purchase less than 2 percent of their requirements locally, largely because it is cheaper to import them once costs of complying with Customs' paperwork and delays are incorporated. Improvements in Customs' attitudes and functioning should be high on the list of policy reforms which will benefit industrial development in Jamaica.

ANNEX I

EVALUATION OF AID TO GARMENT INDUSTRY

QUESTIONNAIRE FOR FIRMS ASSISTED BY USAID

1. Firm name and person interviewed:

   Firm name:

   Person interviewed:

2. Why did you invest in Jamaica as opposed to other countries?

3. In what year did your firm begin producing garments?

4. What was your employment in the first year? What is your employment now? How has the number of machines and square footage changed from your first year of operation to present?

First year employment:

1992 employment:

First year # of machines:

1992 # of machines:

First year square footage:

1992 square footage:

5. Can you provide the following figures on sales and exports (US$ if possible)?

	First year of prod.	1991 or 1992
Annual sales	$	$
% exports		
% local		

6. What percentage of your exports go to:

USA

Europe

CARICOM

Other

7. What percentage of your exports are:

807 and 807A

CMT

CARICOM

8. What would you estimate is your percentage return on your investment in the company?

9. What are your major product lines? Have they changed significantly from what you were producing originally?

10. How much has your production (no. of garments) increased since you began operations?

Average production in first year:

Average production in 1991:

Comments:

11. How has your "operator efficiency" improved over time (proxy for productivity--if the firm measures productivity in another way, obtain these figures.)

Operator efficiency in first year:

Operator efficiency in 1992:

Comments:

12. If you use operator efficiency as a measure of productivity, how does your operators' 100% efficiency compare with 100% efficiency from U.S. workers?

13. When, how much and what kind of assistance has your firm received from USAID? Have you received assistane from anyone besides USAID?

Year(s):

Frequency:

Hours:

Type of assistance:

Non-USAID assistance:

14. Have USAID consultants helped your firm implement new systems? If so, please describe.

15. Have U.S. AID programs increased your workers' skills? In what way?

16. Have U.S. AID programs improved productivity in your firm?
In what way and how much?

17. Have USAID programs helped your firm improve its marketing?

18. Would you be willing to pay for USAID services you have received? Why or why not?

19. What do you see as the major constraint(s) to development of the garment industry? Has USAID assistance helped to alleviate these constraints?

20. How can USAID best target its technical assistance to assist export development and promote investment in the garment industry in the future: Associate engineer program, technical assistance in production line operations, costing assistance, helping Garmex (or privatising Garmex)?

16. What impact do you think the NAFTA will have on Jamaica's garment industry (if any)?

ANNEX II

FIRM: La Moda

CONTACT: Dorothy Over

La Moda began producing garments in 1972 under the name Stylcraft. It began exporting in 1985. In 1987, to take advantage of export incentive laws, Mrs. Over set up a new company, La Moda, devoted solely to export. JNIP assisted the company but it was too small for the KSA assistance program.

Employment in 1987 was 160; by 1992 it had grown to 505. Machines in 1987 totaled 105; now there are 400. Factory square footage has grown from 10,500 to 28,000 over the same period.

Sales, all of which are exports under the 807 and 807A programs (90 percent 807A), grew from US$413,720 in 1987 to US$800,000 in FY1991 (Aug. 1991-July 1992). 1992 may be the best export year ever. From January to June sales have already reached $440,000. Hopefully this will be the first year the company turns a profit. Mrs. Over attributes the improved financial situation in large part to the 1991 devaluation.

Major product lines have evolved from more complex (fashion garments such as knitted jackets and outerwear) to more basic designs such as T-shirts and shorts because La Moda has developed new and more stable customers who provide consistent demand. The change in product line has resulted in increased productivity and greater profitability. The work force is also more stable.

Production in the first year was around 10,000 units per week. After a drop in production due to hurricane Gilbert in 1988, weekly production increased to 60,000 units per week in 1991.

La Moda has received USAID funded assistance in the form of services by long term consultants accessed through JAMPRO. Beginning in early 1990, at which time the firm was on the verge of collapse, an associate engineer from JAMPRO and a long term consultant funded by USAID began providing assistance. The engineer worked full time for six months in the factory, while the consultant came as needed, at least

once a week. They helped train supervisors, helped organize quality control systems, assisted in product costing and cost reporting (particularly helping the firm get a grip on overhead costing), implemented individual performance reporting systems, and taught engineering techniques such as time and motion studies.

Operator efficiency in 1987-88 was only around 30 percent. It is now at an average of 75 percent. Mrs. Over attributes the productivity increase directly to the USAID assistance her firm received, particularly the supervisory training and the improved systems. She estimates that her workers' 100 percent efficiency is probably around 75 percent of U.S. workers' 100 percent efficiency.

USAID assistance has also helped La Moda with marketing. The two largest customers, both of whom began using La Moda in 1991, were referred from one of USAID's long term consultants from his contacts in the U.S. industry. Mrs. Over has also attended the Bobbin Show with USAID assistance, and found it essential for a company to exhibit a presence in the marketplace.

La Moda currently pays JAMPRO a retainer for the privilege of accessing USAID consultants. Mrs. Over would be willing to pay more for actual services rendered, but doubts whether Jamaican firms would be able to afford to pay the full cost of the technical assistance if that were required.

The major constraint to development of the garment industry, at present, according to Mrs. Over, is still the lack of middle management. She perceives a continuing need for training engineers who are willing to get out on the factory floor and get their hands dirty. Therefore, her suggestion for future directions of USAID assistance would be to move into more formalized training.

Mrs. Over perceives the NAFTA as a real threat to Jamaica's apparel industry. Not only the duty free treatment for value added would give Mexico a competitive advantage, but also the proximity to the U.S. market and less expensive and quicker transport. Jamaica requires at least two weeks solely for transport to and from the U.S. This makes the turnaround time longer than is acceptable for some types of garment.

FIRM: Noel of Jamaica

CONTACT: Fred Clinesmith

Noel of Jamaica, an American owned firm, was established in Jamaica in 1982. The owners were attracted by free zone incentives and the fact that Jamaica was an English speaking country. Noel of Jamaica set up a subsidiary, Jamtex, in the Kingston Free Zone in the mid-1980's. Jamtex benefitted from a USAID direct grant of $400,000 in 1985-86 to provide training for managerial personnel. Noel of Jamaica went bankrupt in 1987 and was bought out by Gitano, a U.S. firm which also has garment factories in Guatemala and Costa Rica. Gitano, the current owner, closed Jamtex in 1991 to cut costs and help achieve economies of scale. Mr. Clinesmith has been in Jamaica since 1990, so that was used as the base year for the questionnaire.

Employment at Noel of Jamaica has increased from 1,000 in 1990 to 1,600 at present. Machines have increased from 900 to 1,400. Square footage has decreased from 250,000 to 200,000, another cost cutting measure.

Sales, of which 100 percent is exported to the U.S., have almost doubled, from US$18 million in 1990 to and expected US$30 million in 1992. Of this, 40-50 percent is 807 and 50-60 percent is CMT. Noel of Jamaica is trying to increase the CMT component to 70 percent because it provides higher value added. The company has had losses until now. If the favorable trends of 1992 continue, Mr. Clinesmith hopes there will be a positive return on investment of around 10 percent in 1992. The devaluation has had a major positive effect on profitability by decreasing labor costs and giving breathing space to implement needed changes. In fact, had the Jamaican dollar not devalued in 1991, Noel of Jamaica might have been forced to close down by now.

Noel of Jamaica's major product line is men's, women's and children's jeans. It has not changed over the years. Production has increased considerably, from 4,500 dozen per week in 1990 to 8,000 dozen per week at present.

Noel of Jamaica has benefitted from services of long term USAID funded consultants since 1990. They have assisted by training middle management in statistical quality control and line balancing and by training supervisors in the plant. The consultants also have provided valuable assistance in informing the company of techniques which have proved effective in other Jamaican plants, and thus helping to

conform managerial practices to the Jamaican environment. In marketing, Noel of Jamaica has turned to the consultants for information on other Jamaican firms who can handle subcontracting. Mr. Clinesmith was not able to comment on the effectiveness of the $400,000 grant to Jamtex, since he was not in Jamaica at the time. However, since Jamtex's parent went bankrupt and Jamtex was closed down by Gitano to achieve efficiencies of scale, one must conclude that that assistance was not successful.

Operator efficiency (the average percentage of target achieved by operators) has increased from an average of 70 percent in 1990 to 83-84 percent in 1992. Mr. Clinesmith estimates his operators' efficiency is approximately 70 percent of U.S. operators' efficiency. However, it is difficult to compare the two because equipment in Jamaica is generally less efficient than U.S. equipment because labor costs are lower. He attributes the increased productivity directly to USAID funded assistance, particularly the statistical quality control methods and line balancing taught by the consultant.

The single biggest constraint on development of the garment industry, according to Mr. Clinesmith, is Jamaican Customs. In particular, it is a major barrier to the Free Zone companies providing backward and forward linkages to development of industries outside the zone. For example, he would like to subcontract cutting and washing operations, but there are no firms in the zone who can take on subcontracting and the bureaucracy caused by Customs makes it impossible to even consider subcontracting outside the zone. Therefore he sends the jeans to the U.S. for washing. He would also like to be able to send sewing machine motors out for repair to local Jamaican shops. However, the Customs bureaucracy requires posting a bond and hours of paperwork, so he buys new motors from abroad instead. The other major constraint on growth of the industry is lack of trained managers.

Mr. Clinesmith encourages USAID to continue its existing consultant services, which he finds very valuable and well targeted to industry needs. Some of the associate engineers trained in the KSA program have worked for his factory and he found them very well trained. Since he has problems hiring qualified engineers, he would encourage USAID to consider an engineering training course. He finds the H.E.A.R.T. Garmex Academy greatly underutilized because there are not enough graduates. If it trained more people,

they would have no difficulty finding employment in the industry.

Regarding the threat of NAFTA to Jamaica's industry, he thinks the biggest advantage Mexico has is its ability to respond quickly to order. The rapid turnaround time is a result of transport advantages. On the other hand, wages in Mexico are likely to increase because other industries like automobiles will be competing for labor. Providing Jamaica with equivalent duty-free treatment for value-added in 807A garments would at least put Jamaica on the same footing in the area of duty.

FIRM: Airwatt Manufacturing Co. Ltd.

CONTACT: Anthony M. Hyde

Airwatt began producing handbags in 1977 when they were in short supply on the local market due to import restrictions and foreign exchange shortages. Handbag production then expanded into luggage. However, because Jamaica has a small domestic market, Airwatt could achieve no economies of scale and thus had problems competing with imports when Jamaica liberalized its import regime in the early 1980's. At that time it moved away from stylized products like handbags into products which do not require frequent retooling. Airwatt's main lines are now luggage, school bags, and sport bags.

Airwatt started in 1977 with a work force of twelve persons. It now employs around 80 in the low season and 150 in high season. The company started with about 8 machines and now has 85 (the person to machine ratio is higher in the luggage business than in the garment business because of the complex sewing and handwork required.) Square footage has grown from 1,500 square feet to 40,000 square feet. The 40,000 square feet are not fully utilized, but give Airwatt the option of expansion, since Airwatt owns the factory.

In Jamaican dollars, sales have increased slightly from J$5.6 million in 1987 to J$7.3 million in 1991. However, in US$ terms, they have fallen from around $1 million to US$603,000. At present, Airwatt exports around 11 percent of sales to CARICOM. However, it is starting to do 807 (golf cart covers) products for export to the U.S. When this line is underway, Mr. Hyde hopes to be exporting 60 percent of production to the U.S. under the 807 program. The other 40 percent will be sold in CARICOM (including the local Jamaican market.) Mr. Hyde told us that until the Jamaican dollar devalued in 1991, exporting outside CARICOM did not make economic sense, because the return was too low. With the liberalized export regime and the devaluation, however, exporting to hard currency markets is attractive. Although he could not give a figure for his return on investment, Mr. Hyde estimated it would be quite low.

Major product lines have evolved from simpler school bags, luggage and sport bags produced for the CARICOM market to more complex golf cart covers and equipment cases for the 807 market. The latter are much more labor intensive and therefore have a higher value added.

Production has increased sharply in the past four years. Since 1988, when Airwatt started receiving USAID assistance, monthly production has grown from an average of 7,000 units per month to a current 20,000 units per month.

Airwatt has received USAID funded assistance from long term consultants accessed through JAMPRO. Starting in 1988, the consultant appraised the factory's export competitiveness. He identified the assistance needs as improved quality control, training of supervisors, a better organized production area and equipment layout, and improved pricing and cost control. Having identified these areas of need, he proceeded to supply the necessary assistance. In addition, he helped with marketing. He walked the company through areas needed to start export production, assisted in identifying contacts in the U.S., and helped in negotiating the export contracts. When Airwatt's needs were most intense, the consultant called every day. Now he works on an "as needed" basis. Mr. Hyde found the consultant addressed the full spectrum of needs for small Jamaican companies trying to break into exports. He was particularly complimentary about the consultant's experience with both the factory on a micro-scale and the industry on a macro-scale. Airwatt has also received assistance from the U.K.'s CFT, which was not very useful, and the associate engineer parallel program (financed by USAID) which he found to be a good program.

Mr. Hyde felt the USAID assistance had a major impact on his firm's productivity by helping implement new systems (quality control, costing, etc.) and by supervisory training. He estimated the help increased productivity by around 150 percent. Average operator efficiency in 1988 was 55 percent, with a rejection rate of around 250 units per 1,000. Average operator efficiency is now at 97 percent, with a rejection rate of less than 5 units per 1,000. Although it is difficult to estimate how his operators compare with U.S. operators because Airwatt does not export to the U.S. at present, he feels they may come close to 100 percent efficiency.

USAID assistance has also helped Airwatt's marketing. Mr. Hyde attended the 1992 Bobbin Show with USAID assistance. One of his new 807 contacts was made at the show, and the other was cemented there. He plans to make the Bobbin Show a regular marketing event. Having seen the results of USAID assistance, he has no problem with the cost sharing approach now taken by JAMPRO.

Among the constraints on future development of the garment industry in general, Mr. Hyde mentioned the high cost of capital in Jamaica, which makes it impossible for new entrepreneurs to enter the business unless they have substantial investment capital. Regarding future directions of USAID assistance, he endorsed the current program of long term consultants, but noted they must be carefully selected because having the right person makes the difference between success and failure. The person must have knowledge and experience in the industry, but must also be prepared to share it and to get his hands dirty in a factory. This type of person is ideal for providing technical assistance to a developing industry, in Mr. Hyde's opinion.

Regarding the effect of NAFTA on Jamaica's garment industry, Mr. Hyde feels it will create some dislocations, but also opportunities by opening larger markets (Mexico and Canada) to Jamaican firms through the U.S. Jamaican companies must be careful with the products they select for export, with an eye to competitiveness and market possibilities.

FIRM: Crimson Dawn

CONTACT: Paulette Rhoden

Crimson Dawn started production in 1975 with 8 employees and 5 machines, producing sports wear for the Jamaican and CARICOM market. In 1982 it entered the 807 export market to maintain sales in the face of import competition, but stopped its 807 exports in 1989. By 1988 it had 40 employees, and employment is now up to 55. Crimson Dawn has had 8,000 square feet of factory space for ten years or more.

Crimson Dawn is a small company, whose sales average less than US$200,000. In 1983 they were around $120,000; in 1988, due to Hurricane Gilbert, they dropped to $44,000. In 1991 they had recovered to $131,000. Mrs. Rhoden hopes to have her best year ever in 1992, with around J$7 million in sales, but it is uncertain what this will amount to in US$ because of the fluctuations in the Jamaican exchange rate. Because of the heavy debt burden the company carries, with local interest rates now at 70 percent, the company has often had net losses.

Crimson Dawn exports approximately half its production. Of the exports, 60 percent is to CARICOM and 40 percent to Europe and other countries. All is therefore CMT.

Major product lines are now active wear, jogging suits and sew-ups. Crimson Dawn produces many sports team uniforms. Production has grown by around 15 percent since 1989 from 74,656 units to 81,000 units in 1991.

Crimson Dawn has benefitted from services of one of USAID's long term consultants since 1988. The consultant has provided extensive assistance in analyzing operator efficiency, implementing a cost control system, assisting in line balancing and throughput, and organizing the production floor for changing styles. Mrs. Rhoden also attended the Bobbin Show with USAID assistance, which she considered a valuable tool not only for marketing but also for technology transfer. She remarked that most Jamaican manufacturers alive today have been to the Bobbin Show. She considers it essential for survival in a competitive industry.

Crimson Dawn's productivity has improved as a direct result of USAID assistance. Mrs. Rhoden mentioned in particular the implementation of new techniques had improved worker

skills. However, the improvements are difficult to measure in terms of production because other problems--mainly financing working capital due to the devaluation--have caused a decline vis-a vis five years ago. When working capital is insufficient, Crimson Dawn cannot finance the import of raw materials sufficient to maintain an efficient level of capacity utilization. Thus Mrs. Rhoden named the problems of finance and raw material purchase as the most significant constraints to development of the industry.

Mrs. Rhoden, who is head of the Jamaica Manufacturers Association Apparel Industry working group, had several suggestions for future directions of USAID assistance to the industry. First, she supported the current programs of long term consultancies and marketing help through Bobbin Show attendance, with the caveat that the consultants are most effective when they are willing to take a hands-on approach in the factory. Critical in the long term consultant type of aid is to find the right person.

Second, she suggested USAID might help to create a library of training films and documentaries which are often displayed at the Bobbin Show. She noted that Jamaicans are visual learners, and thus visual demonstrations of new techniques are a very effective way of training Jamaicans. If there were a library, individual firms could check the films out for training sessions at their factories.

Third, she noted that the needs of the cottage industries, small manufacturers, medium sized firms, and large manufacturers are all very different. Thus some thought should be given to a sectoral approach to aid to the industry.

Fourth, she emphasized the need for continual training. Employment in the apparel industry is very fluid with high rates of turnover. Thus the demand is always high for newly trained personnel. In this context, she noted that Garmex Academy was underutilized, and suggested it might be made into a polytechnic institute, perhaps merging it with CAST, and expanding its reach to other Caribbean nations. That could increase the funding and provide economies of scale in training services.

FIRM: Fine Line Ltd.

CONTACT: Mrs. Leslie Schweitzer

Mrs. Schweitzer, an American citizen, bought Fine Line in 1989. Previously she worked for a number of U.S. apparel importing companies, contracting for 807 and other production services abroad. Thus she has no problem marketing Fine Line's production capability. Fine Line is located in the Kingston Free Zone and thus exports 100 percent of its production. All the products are 807 or 807A, and are exported to the United States and Canada.

When Mrs. Schweitzer bought Fine Line, only 85 persons were employed. There are now 200, and she expects to double employment by around 1993. The number of machines has increased from 100 in 1989 to 185 at present. Square footage is still 12,000, the amount she started with, but she plans to add another 12,000 by the end of the year.

Annual sales have increased from $500,000 in 1989 to $2 million in 1991. Fine Line returns around 20 percent on investment. Mrs. Schweitzer noted that the critical factor for profitability in the 807 business was to maintain volume, since the greatest costs are fixed.

The major product line is woven shirts. Although the factory started with woven shirts in 1989, the quality and complexity of the product being made today shows a major transformation from the simple shirt which was made in 1989. The number of operations has increased greatly, as has the value added. Major customers are the Gap, Tango, and Duckhead.

Production has increased from an average of 200 dozen a day to 500 dozen now.

Fine Line began receiving USAID assistance from 1989 in the form of JAMPRO consultants funded by USAID. At the beginning the consultant came at least once a week. He helped implement cost control systems, quality control systems, and incentive systems for operators. Mrs. Schweitzer attributes much of her firm's increased productivity to this assistance. She estimates that her Jamaican workers, at 100 percent efficiency, would achieve around 60 percent of U.S. workers, but noted it is difficult to compare because of the different equipment used her vis-a-vis the U.S. Fine Line also had the help of one of the Associate Engineers for a short time, which was helpful.

Although Fine Line needs marketing assistance much less than most Jamaican firms, the USAID consultant also helped in this area by referring one of the current major customers.

Mrs. Schweitzer sees the bureaucracy in Jamaican Customs as the major constraint to development of the apparel industry. Particularly in the Free Zone, the paperwork required to "export" product to the Jamaican Customs Territory inhibits backward and forward linkages. For instance, there are no wash facilities in the Free Zone, but it is more trouble than it is worth to send garments to the Customs Territory for washing. She also sees rising local costs as a problem, as Jamaica could price itself out of the competitive market. The devaluation made a major difference in this area, making exports more attractive.

Mrs. Schweitzer suggests that USAID assistance focus on training and technical assistance through long term consultancies in the future. She noted the industry will always be able to absorb trained operators. Here the critical areas are training in the work ethic (getting to work on time, job responsibility, etc.) and in machine operation. Extensive advanced training in techniques is not as important because every factory has its own way of doing things.

The industry also needs more trained engineers. The KSA trained engineers are the best trained people around, but there were only 69 of them. Most are now in plant manager positions, and the next generation of engineers must be trained to fill middle management positions.

On the technical assistance side, she found the costing help most valuable.

Regarding the effect of NAFTA, Mrs. Schweitzer noted that Jamaica is unlikely to lose its current customers and firms, but could lose new customers if Mexico has a significant comparative advantage. However, Mexico already has the advantage of lower freight rates, and yet at least one customer has changed its source from Mexico to Jamaica because Mexican quality was not as good and shipments were often late.

FIRM; Davon Corporation Limited

CONTACT: David Chin

Davon began producing garments in Jamaica over thirty years ago, in 1960. At that time, Mr. Chin and his partner noticed that there was a shortage of apparel on the local market. Encouraged by a JIDC program to assist firms to enter the apparel industry, Mr. Chin ordered equipment from the United States and started producing men's and boys' pants, ladies' shirts and slacks, and school uniforms. In the 1970's, Davon expanded its market to include exports to CARICOM. When Jamaica liberalized imports in the early 1980's, opening the market to foreign competition (especially from "higglers"), Davon was forced to retrench. From 500 employees, Mr. Chin cut back to around 300 in 1980. He also joined the 807 export program to maintain production.

Twelve years later, Mr. Chin has three factories (Davon, Windmill and International Apparel[8]) which together employ 700 workers. He also subcontracts, employing another 50 workers. Machines have increased from around 180 in 1980 to 500 at present. Square footage has more than doubled, from 33,000 in 1980 to 72,000 in 1992.

Davon is the prototype Jamaican garment factory which has moved from 98 percent production for the local market in 1980 (2 percent exported to CARICOM) to 92 percent exports and 8 percent local production in 1992. 80 percent of exports are 807 and 807A, while 20 percent are CMT. Major markets are the United States (65 percent) and Canada (35 percent). Mr. Chin estimated his return on equity fluctuates between 12 and 20 percent, depending on the volume of 807 orders in the year. He noted that return in the 807 business depends very much on volume, since fixed costs are fairly stable. He hopes to increase his return to about 25 percent by increasing the value added of apparel.

Major product lines have changed significantly since 1980, when 80 percent of Davon's production was men's pants. At present, Davon produce 30 percent men's pants, 50 percent workwear, and 20 percent children's wear. Production has also increased significantly. In 1980, Davon was producing

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[8] For simplicity, we will use "Davon" to refer to all three plants owned by Mr. Chin.

between 8,000-10,000 units per week. Now it produces 31,000 units per week.

Davon's operator efficiency has improved from achieving around 60 percent of target in 1980 to 70-75 percent at present. Mr. Chin attributes this to low turnover in his work force and growing experience. He estimates Jamaican workers achieve around 80 percent of the output of U.S. workers because machinery is less efficient, factories are hotter, and the Jamaican diet is not as good. Given similar conditions as in the United States, he feels Jamaican workers would produce as efficiently as U.S. workers.

Davon was one of two firms to receive a direct grant from USAID. In 1987, USAID gave Davon $70,000 to hire a management/engineering consultant for 9 months to reorganize the factory, train personnel and improve standards. Davon was responsible for finding the consultant. Mr. Chin said the results were "not up to expectations," because the individual recruited was not appropriate for the job. Part way through the consultancy, Mr. Chin asked JAMPRO to remove the person from the factory.

Davon has benefitted from other USAID funded assistance to a very limited extent. He has attended trade shows in delegations organized by JAMPRO and had one of the USAID long term consultants in the factory to train supervisors. These programs were satisfactory.

Davon also received aid from the KSA personnel who were in Jamaica in the early 1980's. They provided training to his employees at the Windmill plant and International Apparel plant. The results ranged from fair to very effective. Windmill has changed its product line drastically, so the results of training there were fair. International Apparel still has the same product line, and the results there were very effective.

Mr. Chin noted that for long term consultancies to be effective, it is critical to find the right person. A strong personality is a must, because this induces employees to change long-ingrained habits. He found USAID programs have only marginally improved his workers' productivity through supervisory training. USAID programs have helped his marketing efforts by providing exposure in trade shows.

Regarding the cost-recovery program now being implemented at JAMPRO, he noted that it is a good idea, but might have a

problem in that the need for assistance is probably greatest in firms who cannot afford to pay.

Mr. Chin felt that constraints on development in the garment industry were different for large, medium and small sized firms. For smaller firms, the greatest problem is to identify a steady market, which is essential to minimize costs and keep a stable income. For middle sized firms, the lack of trained personnel such as mechanics, supervisors, and engineers is a constraint. Finally, for large firms the Jamaican bureaucracy is a major constraint (customs, permits, etc.)

Mr. Chin suggested USAID concentrate on the following areas for technical assistance in the future:

> Training supervisors--here is the biggest impact
> Training managers (associate engineers and owners)
> Training mechanics (must be properly structured and long-term, e.g. 2 years)

He also suggested greater coordination between the private sector and USAID, perhaps by nominating someone from a private sector institution (e.g. JMA) to work with USAID.

FIRM: Apparel Export International Ltd.

CONTACT: Ralston Smith, Chairman

Apparel Export began operations in 1984 with 50 employees and 70 machines. It now employees 250 workers and has 200 machines. Square footage has expanded from 12,000 in 1984 to 28,000 today.

Sales have also grown. In 1984 they were J$300,000 (US$76,000) of which 70 percent were exports. In 1991 sales totaled J$5.5 million (US$454,000), of which 100 percent was exported. All exports are destined for the U.S. market, and 95 percent are 807 or 807A. Mr. Smith estimates his return on investment is around 15 percent.

Major product lines have changed significantly since start-up. In 1984 Apparel Export was producing men's shirts and ladies' blouses. Now it produces primarily hospital garments and ladies' dresses. Average production is 100,000 dozens annually.

Apparel Export has benefitted from USAID funded technical assistance and training. Beginning in 1986, a long term consultant came daily for approximately one year. In the second year, he came about three times a week. Since then, the consultant has been available on an "as needed" basis. The consultants helped implement new systems, such as time and motion studies to assist with operator efficiency, quality control systems, line balancing and factory layout. They also provided in-plant training to supervisors, managers, and operators in quality control, efficiency measurement and production management.

Apparel Export's operator efficiency has more than doubled, from 40 percent in 1984 to 85 percent in 1992. Mr. Smith attributes at least one quarter of this improved productivity to USAID assistance, particularly training of operators and supervisors and system providing consistency of operations. Jamaican workers attain approximately 75 percent of U.S. workers' productivity, according to Mr. Smith.

Mr. Smith said he would be willing to pay for USAID provided services in the cost sharing program because he has seen that the service is valuable.

The greatest constraints to future development of Jamaica's apparel industry, according to Mr. Smith, are high interest rates, customs and bureaucracy, lack of sufficient trained middle managers, absenteeism among workers, high operating costs, and absence of a systematic training program for operators. USAID has helped alleviate the lack of trained middle managers by providing training and the problem of high operating costs by improving efficiency in the current work force.

Mr. Smith suggests USAID assistance in the future should target around 9 companies with the potential to grow and develop exports and assign thre consultants for 6 months to these companies to assist with production problems, training and marketing. He would also like to see USAID help to get Garmex Academy operating to the point where it could turn out at least 100 operators per week.

Mr. Smith sees NAFTA as a positive development for Jamaica, because once Mexico negotiates improved access and duty free treatment for its apparel exports the United States will be more willing to negotiate the same terms for Jamaica. However, if Mexico gets duty and quota free treatment and Jamaica does not, this will be a disaster because new companies would prefer to invest in Mexico.