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Considerations of Employment in a Diversification Thrust — The Case of St. Kitts and Nevis

INTRODUCTION

It is well known that the social and economic development of any country is ultimately the result of human effort. The need to create opportunities for people to effectively utilize their innate capacities in productive activity is therefore critical to a country's development.

This paper will attempt to consider and examine the significant factors relating to the generation of employment, with specific reference to the programme of agricultural diversification in St. Kitts and Nevis.

The surge of activity in agriculture, through the diversification programme, is expected to increase the demand for manpower skills. The extent to which the programme of agricultural diversification could impact on the economy of St. Kitts and Nevis will thus be assessed with particular attention to employment creation (including job opportunities for women). Before addressing this issue, the paper will focus on the general economic performance and the status of agriculture and its contribution to the economy. The paper will also give a description of the programme of agricultural diversification of St. Kitts and Nevis.

REVIEW OF ECONOMIC PERFORMANCE OF ST. KITTS AND NEVIS

St. Kitts and Nevis has an open economy and, as such, it is subject to external influences and, to a great extent, external economic dependence and vulnerability arising from the country's heavy reliance on primary exports as well as imports of food stuff. For instance, in 1986 sugar was responsible for 36.9% of total exports of EC$71.0 million (U.S.$26.3 million) and food imports stood at EC$27.8 million (U.S.$10.3 million) (World Bank). Foreign dependence also involves capital inflows in the form of grants, loans and private remittances.

Historically, the economy has been based on sugar production. However, during the present decade, the economic structure has been changing away from the heavy reliance on sugar. Tourism and manufacturing have become increasingly important, replacing sugar as the main foreign exchange earner.

Tourism growth is the most significant factor influencing the balance of payments in recent years. Tourism-related development also explains the steady inflow of private direct investment that has bolstered the capital account of the balance of payments.

The manufacturing sector, which consists of assembly-type export enclave firms as well as indigenous manufacturing and small scale firms, accounts for about 13% of Gross Domestic Product (GDP) (Tables 1 and 2).

Manufacturing, tourism and agriculture have been providing the major thrust as regards domestic output and growth of the economy. Economic growth measured a relatively satisfactory 4.4% mean annual rate during the period 1982 to 1986 (Table 2). The relative importance of these sectors to the economy in terms of contribution to GDP, is shown in Tables 1 and 2. In examining these Tables, it will become readily noticeable that the importance of agriculture, in terms of its contribution to GDP, has declined.

THE STATUS OF AGRICULTURE

The agricultural sector, comprising the two distinct components of sugar and non-sugar agriculture, still maintains a vital and significant position in the economy. The sector provides employment for about 35% of the work force and accounts for over 60% of foreign exchange earnings.

The sugar industry is the country's largest employer. Table 3 reflects the level of employment in the sugar industry, and indicates a steady reduction in the labour

TABLE 1: *St. Kitts and Nevis: GDP at Factor Cost, 1979-86*
(EC$ Million at Current Prices)

	1979	1980	1981	1982	1983	1984	1985	1986
Agriculture	13.6	16.5	13.8	20.3	16.2	19.7	17.0	17.4
Crops	2.3	2.2	2.5	2.3	1.7	1.4	1.7	1.9
Sugar cane	7.3	9.8	5.3	11.4	7.5	11.4	7.8	7.9
Livestock	2.5	2.6	3.4	3.5	3.5	2.9	3.2	2.5
Fishing	1.5	1.8	2.5	3.0	3.4	3.9	4.2	4.9
Forestry	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Mining	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Manufacturing	12.8	15.7	17.9	18.7	17.6	22.6	21.9	23.7
Construction	8.1	10.6	10.9	13.6	15.0	12.8	14.9	16.7
Electricity and Water	0.8	0.9	1.1	1.4	1.4	1.4	1.5	1.6
Wholesale and Retail Trade	9.8	13.0	14.1	16.5	18.3	20.7	24.0	26.4
Hotels and Restaurants	4.8	4.5	5.4	4.3	4.4	5.2	6.1	8.3
Transport and Communications	7.8	10.0	15.4	17.5	16.4	19.5	21.1	23.9
Banking and Insurance	4.6	5.3	5.8	8.6	8.2	11.1	11.9	12.9
Real Estate and Housing	6.5	6.7	7.5	7.8	8.1	8.5	9.0	9.5
Government Services	18.2	19.2	26.6	28.6	29.9	36.1	37.3	41.5
Other Services	4.0	5.2	6.6	7.3	7.8	8.4	9.0	9.7
Less Imputed Service Charges	−3.5	−4.4	−4.0	−6.2	−7.1	−8.9	−8.0	−8.6
Gross Domestic Product	87.8	103.5	121.4	138.8	136.4	157.4	166.1	183.4

Source: Statistical Office, Planning Unit, St. Kitts and Nevis.

TABLE 2: *St. Kitts and Nevis: GDP at Factor Cost, 1979-86*
(EC$ Millions at Constant 1977 Prices)

	1979	1980	1981	1982	1983	1984	1985	1986
Agriculture	14.9	13.4	14.1	14.1	11.5	12.0	11.7	11.5
Crops	2.1	2.0	2.1	1.7	1.3	1.2	1.3	1.5
Sugar cane	9.1	8.0	8.0	8.3	6.5	7.0	6.2	6.2
Livestock	2.4	2.2	2.5	2.5	2.1	2.1	2.4	1.8
Fishing	1.2	1.1	1.5	1.5	1.5	1.6	1.7	2.0
Forestry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mining	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Manufacturing	13.3	13.6	12.2	13.2	11.7	13.2	12.4	13.1
Construction	6.1	7.7	8.0	9.5	10.4	8.7	9.8	10.3
Electricity and Water	0.7	0.9	0.9	1.0	1.0	1.1	1.2	1.3
Wholesale and Retail Trade	8.3	9.4	9.2	10.2	11.0	12.3	13.8	14.5
Hotels and Restaurants	2.8	2.6	2.9	2.5	2.5	2.9	3.3	4.3
Transport and Communications	6.3	6.9	9.3	9.4	9.6	10.5	11.0	11.9
Banking and Insurance	4.1	4.3	4.2	5.0	5.0	5.6	5.8	6.2
Real Estate and Housing	5.4	5.5	5.6	5.6	5.7	5.8	6.0	6.2
Government Services	15.0	15.7	16.6	17.8	18.5	22.4	23.5	23.9
Other Services	3.4	3.8	4.3	4.5	4.7	5.0	5.2	5.5
Less Imputed Service Charges	−3.1	−3.6	−3.1	−3.3	−3.3	−3.6	−3.8	−4.0
Gross Domestic Product	77.3	80.3	84.4	89.7	88.7	95.9	100.3	104.9
GDP Growth		3.9	5.1	6.3	−1.1	8.1	4.6	4.6

Source: Statistical Office, Planning Unit, St. Kitts and Nevis.

TABLE 3: *St. Kitts and Nevis Employment in Sugar Sector by Sex, Number and Percent**

Year	NUMBER			PERCENT		
	Male	Female	Total	Male	Female	Total
1980	3,043	1,215	4,258	71.47	28.53	100
1982	2,454	1,001	3,455	71.03	28.97	100
1983	2,157	775	2,932	73.57	26.43	100
1984	2,161	821	2,982	72.47	27.53	100
1985	2,050	790	2,840	72.18	27.82	100
1987	1,808	874	2,682	67.41	32.59	100

*1980 – 1987 excluding 1981 and 1986.

Source: St. Kitts Sugar Manufacturing Corporation.

force. The increased activity in tourism and construction, which pay higher wages, no doubt has led to such reduction in the labour supply to the industry.

The sugar industry is presently confronted with many problems, apart from the problem of uncertainty of the labour supply, which could affect its financial viability. The uncertainty of the market for sugar, as the United States of America (USA) continues to reduce its sugar import quota, is also of grave concern. Operational inefficiencies and relatively low sugar prices on the international market are additional issues facing the industry.

Non-sugar agriculture, which comprises livestock, root and vegetable crops and fishing, is also plagued with difficulties, despite the fact that it represents one-half of all agricultural value added. Livestock is constrained by tick borne diseases and the lack of cheap sources of animal feeds; the crop production is impaired by inadequate rainfall and marketing constraints; and fisheries development is restricted by small size of boats, inadequate landing and storage facilites and overexploitation of some species of fish.

The Government of St. Kitts and Nevis has responded to the issues and problems facing sugar and non-sugar agriculture by pursuing a programme of agricultural diversification, including the adoption of measures to raise operating efficiency. This programme is documented in a report entitled, "St. Kitts and Nevis Agricultural Diversification Study."

AGRICULTURAL DIVERSIFICATION PROGRAMME

The programme of agricultural diversification, generally considered a mechanism for effecting structural adjustment, is based on the major policy objectives of agricultural development, identified in the National Development Plan, 1986-1990.

The national agricultural development project places emphasis on institutional strengthening and small farmer development, including special project activity for women. The fisheries element involves the provision of infrastructure, research, training and information gathering systems. The programme is sub-divided into two sub-projects: the St. Kitts sub-project and the Nevis sub-project. The total cost of the programme is estimated at EC$41.4 million (U.S.$15.3 million) (Tables 4 and 5).

The St. Kitts sub-project comprises the components of farm settlement, national agricultural development and fisheries. The farm settlement component involves the settlement of tree crop, livestock and arable crop farmers. It also includes the provision of credit, cultivation and extension services, marketing and training for settlers. The total cost of the St. Kitts sub-project is estimated

TABLE 4: *St. Kitts and Nevis Agricultural Diversification Project Project Summary Cost — St. Kitts*

Item	COST (EC$'000)			% Foreign Exchange	% of Total Base Cost
	Foreign	Local	Total		
1. Marketing Component	1,699.75	725.25	2,425.00	70.1	9.8
2. Fisheries Component	325.00	700.00	1,025.00	31.7	4.1
3. Credit Component	1,600.00	400.00	2,000.00	80.0	8.1
4. Extension Component	28.20	112.80	141.00	20.0	0.6
5. Institutional Component	5,523.30	3,859.10	9,382.40	58.9	37.8
6. Monitoring and Evaluation	126.00	54.00	180.00	70.0	0.7
7. Settlement Component	3,290.24	1,984.12	5,724.36	62.4	21.3
Total Capital Cost	12,592.49	7,835.27	20,427.76	61.6	82.4
Operating and Maintenance Cost	1,759.80	2,609.70	4,369.50	40.3	17.6
Total Baseline Cost	14,352.29	10,444.97	24,797.26	57.9	100.0
Physical Contingencies (5%)	717.61	522.25	1,239.86	–	–
Price Contingencies (5%)	717.61	522.25	1,239.86	–	–
Total Project Cost	15,787.51	11,489.47	27,276.98	57.9	–

Source: Government of St. Christopher and Nevis (1988). St. Kitts and Nevis Agricultural Diversification Study.

TABLE 5: *St. Kitts and Nevis Agricultural Diversification Project Project Summary Cost — Nevis*

Item	COST (EC$'000)			% Foreign Exchange	% of Total Base Cost
	Foreign	Local	Total		
1. Agricultural Diversification	1,873.85	1,090.15	2,964.00	63.20	23.1
2. Marketing Component	442.20	76.80	519.00	85.20	4.0
3. Fisheries Component	447.50	646.50	1,094.00	40.90	8.5
4. Credit Component	400.00	100.00	500.00	80.00	3.9
5. Extension Component	48.52	228.13	276.65	17.50	2.2
6. Institutional Component	3,913.00	1,839.00	5,752.00	68.00	44.8
7. Monitoring and Evaluation	–	–	–	–	–
Total Capital Cost	7,125.07	3,980.58	11,105.65	64.16	86.5
Operating and Maintenance Cost	695.44	1,043.16	1,738.60	40.00	13.5
Total Baseline Cost	7,820.51	5,023.74	12,844.25	60.89	100.0
Physical Contingencies (5%)	391.02	251.19	642.21	–	–
Price Contingencies (5%)	391.02	251.19	642.21	–	–
Total Project Cost	8,602.55	5,526.12	14,128.67	60.89	–

Source: Government of St. Kitts and Nevis (1988). St. Kitts and Nevis Agricultural Diversification Study.

at EC$27.3 million, of which capital investment accounts for EC$22.5 million (82%) and operating and maintenance cost for EC$4.8 million (See Table 4).

The Nevis sub-project is comprised of Government estate development, small farmer development, strengthening of the Department of Agriculture and a fisheries component. Under the Government estate development component, production activities will revolve around both livestock and crops. Support to existing farm settlements and the establishment of a beef settlement will be the main activities of the small farmer development component. The strengthening of the Department of Agriculture will take the form of staff addition, support to existing programmes and the introduction of new programmes in such areas as marketing, credit, incentives, soil conservation and training. The fisheries component will provide assistance to co-operatives, as well as provide infrastructural facilities and a research vessel. The total cost of the Nevis sub-project is estimated at EC$14.1 million (U.S.$5.2 million) of which capital investment accounts for EC$12.2 million (86.5%) and operating and maintenance cost EC$1.9 million (See Table 5).

IMPACT OF DIVERSIFICATION PROGRAMME

The potential benefits of any programme of agricultural diversification have to be examined in terms of its direct impact on the social and economic well-being of the farm family, in which women play a major role and the general impact on the economy. In examining the impact of the programme in St. Kitts and Nevis, an attempt is being made to identify the extent to which it could lead to the achievement of the agricultural policy objectives identified in the country's Development Plan, particularly in relation to employment creation.

One of the objectives of the Development Plan is to increase food production and food reserves to improve the nutritional status, especially of the farming community. The diversification programme estimates that food production will be substantially increased, resulting from increased acreage under the various crops and from increased yields through improved services. This achievement will, however, depend on the ready access to land and services by farmers.

Another agricultural policy objective is the increase of net foreign exchange earnings. By encouraging import substitution and exports, the agricultural diversification programme could generate earnings of foreign exchange amounting to EC$2.2 million per year, and foreign exchange savings of EC$1.6 million per year. Two major factors influencing the accomplishment of these encouraging financial statistics will no doubt be the diversification of exports and exploitation of market opportunities. Such accomplishment will also depend on the willingness of consumers to use locally produced products.

The increase in incomes, a critical agricultural policy objective for improved nutrition and living standards, is expected to be realized as a direct result of the agricultural diversification programme. According to the Diversification Study, the programme should enhance the socio-economic well-being of a large number of farmers and fishermen and their families.

It is estimated that some 1,848 farmers/fishermen would benefit directly from the programme. However, realization of increased incomes will be largely dependent on the extent to which the programme succeeds in eroding the subsistence/part-time nature of crop production and fishing. The ability and willingness of the farming/fishing community to absorb improved services and training, as well as their adjustment to commercial production, will also affect the generation of increased incomes.

The main agricultural policy objective of direct relevance to the programme of agricultural diversification is the generation of employment opportunities. The projected, direct impact of the programme on employment is shown in Tables 6 and 7.

The programme aims to generate employment of about 59,000 man-days and assuming a total of 250 man-days per person/year an additional 236 persons would be employed on a long term basis. Additional direct employment would be generated from infrastructural development. Some indirect employment would stem from servicing and maintaining infrastructure and equipment from the commercialization of subsistence producers and from increased activities relating to marketing of inputs and outputs. Other indirect employment would generally be created by the strengthening of linkages

TABLE 6: *St. Kitts and Nevis Agricultural Diversification Project Project Impact on Employment — St. Kitts.*

Activity	EMPLOYMENT	
	Number of Persons	Man Days Per Year[a]
1. Department of Agriculture	14	3,500
2. Project Management	7	1,750
3. Strengthening Fisheries Division	2	500
4. Strengthening Marketing[b]	5	1,250
5. Service Centre	15	3,750
6. Settlement Units		
– Farmers	99	24,750
– Additional hired labour[c]	73	18,250
TOTAL DIRECT LABOUR[d]	215	53,750

[a] Assuming 2,000 hours per year per person or 250 man-days per year (8 man-hours per day).

[b] Estimate of persons required to operate export programme, the Marketing Services Unit and Market Terminal Unit.

[c] Rough estimate.

[d] Additional direct employment would be generated from the infrastructural development (roads, buildings, water, electricity) and indirect employment from Servicing and Maintaining infrastructure and equipment, and from the commercialisation of producers.

Source: Government of St. Kitts (1988). St. Kitts and Nevis Agricultural Diversification Study.

between agriculture and tourism, as a result of the programme.

Although agricultural diversification offers great potential for absorption of increases in the labour force, this potential could only become reality based on the relative attractiveness of agriculture compared with other types of employment. The employment generation potential could be enhanced if there is a clearly viable level of income to the farmer that is competitive with other occupations. This could be achieved through the provision of incentives and the development of lucrative markets. In addition to concentration on highly renumerative markets, it has been suggested that realization of the employment generation potential could be achieved through the encouragement of family-type farms and intensive agricultural production, which tends to result in higher productivity levels, lower capital-intensity and more attractive family incomes (Demas).

TABLE 7: *St. Kitts and Nevis Agricultural Diversification Project Project Impact on Employment — Nevis.*

Activity	EMPLOYMENT	
	Number of Persons	Man Days Per Year[a]
1. Department of Agriculture[c]	6	1,500
2. Strengthening Fisheries Division	2	500
3. Project Management	3	750
4. Market Depot[b]	5	1,250
5. Cutting/deboning Unit	2	500
6. Beef Settlement		
– Farmers[d]	6	274
TOTAL	24	4,774

[a] Assuming 2,000 hours per year per person or 250 man-days per year (8 man-hours per day).

[b] Estimate of manpower requirements for operating Depot.

[c] Includes 2 persons for extension development.

[d] Farmers only required to provide 1 hour per day over 365 days per year.

Source: Government of St. Kitts (1988). St. Kitts and Nevis Agricultural Diversification Study.

EMPLOYMENT GENERATION: FACTORS FOR CONSIDERATION

There are, however, other important factors which have direct and significant bearing on any consideration of the generation of employment through agricultural diversification. These factors include education and training, technology, land distribution, credit and marketing.

It cannot be over-emphasised that in order to stimulate and sustain employment in agriculture, younger and more educated and trained farmers need to annually enter into the agricultural sector. Programmes of vocational and technical education must therefore be intensified. Agricultural education programmes have already been introduced in schools throughout the Caribbean Region, but the traditional stigma to agricultural jobs has not been erased.

Thus, there seems to be a need for a new orientation and approach to technical training and education in agriculture. Such training should stress the significance of agricultural production and the importance of agriculture as a respectable occupation. Particular attention should be paid to the role of women in agricultural development. This new direction of education and training, as a social investment, should increase the volume of employment in agriculture and encourage greater productivity.

Agricultural productivity and employment in the Region hinge heavily on technology. In fact, there is general agreement on the decisive influence of technology on the generation of employment. It is, however, common knowledge that the bulk of the technology available in the Region has been developed in and transferred from advanced economies, although in a number of cases it has been adopted to the peculiar features of the countries of the Region.

The need to increasingly tap the potential of indigenous technologies in terms of their contribution to the development of the agricultural sector seems rather urgent. The current research thrusts, particularly in non-traditional crops, through the Caribbean Agricultural Research and Development Institute (CARDI), the University of the West Indies (UWI) and other research institutions in the Region must therefore be encouraged. The incorporation of indigenous technology in the agricultural sector, coupled with the transfer of appropriate technology, and the effective dissemination of research findings to the farmer, no doubt could ensure increased employment generation.

There is also a direct correlation between employment and access to land. Land accessibility by farmers is a crucial determinant of employment generation. Adequate land tenure arrangement, be it a two-tier system of freehold or leasehold, would provide greater access to credit and encourage more long-term investments in holdings in order to increase productivity of the land. Where most of the land is owned by the State, it would appear appropriate for the Government to introduce land reform measures, in order to optimize the use of this important resource.

Credit and marketing arrangements are also significant issues to be addressed in the discussion on employment generation. Credit to farmers is often regarded as an income transfer mechanism, especially when provided at low interest rates. Concessionary credit, especially for start-up farm operations, though this could have adverse impact on lending institutions in terms of their viable operations, is often necessary to encourage new entrants into the agricultural sector.

Agricultural credit is an important support mechanism to the development of new agricultural ventures and to existing farmers. It could help raise the level of productivity and encourage farm families to produce more food. Thus, credit support is critical to sustained farm operations and, as such, employment generation.

Marketing is also crucial to the sustained generation of employment. Agriculture will be attractive to potential farmers and will encourage the existing farming community to remain in this activity, if adequate markets and market arrangements are in place and functioning effectively. Increased and improved agricultural production under any diversification programme must be market oriented.

Direct employment opportunities can result from the full exploitation of the national, regional and extra-regional markets. In order, to take advantage of these market opportunities, a sound marketing strategy must be developed. Such a strategy should take into consideration, among other things, the removal of production problems which serve as constraints to market development; strengthening of the existing weak links in the marketing chain, especially marketing boards; and the identification of markets to be served through proper market intelligence.

This strategy, if pursued, could positively impact on employment.

CONCLUSION

The consideration of employment in any programme of agricultural diversification is especially relevant to the Caribbean Region, where unemployment in some countries is as high as 30%. With a growing and dynamic agricultural sector, there is great potential for generation of sustained employment. This will, however, depend on the proper mix of incentives – land, credit, technology, extension, marketing – which must be so blended as to encourage the choice of agricultural employment, as against employment in other sectors.

This paper has therefore attempted to identify the main factors that could be so blended to influence employment generation under any programme of agricultural diversification. If it has so succeeded, the paper could no doubt contribute to the continued discussion on the impact of such diversification programmes on employment.

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