



PROCEEDINGS

REGIONAL AGRO-TOURISM CONFERENCE

Agro-tourism - a sustainable approach to economic growth

**MOUNT IRVINE BAY HOTEL
TOBAGO, WEST INDIES**

APRIL 26-29, 2000

**CO-HOSTS:
TOBAGO HOUSE OF ASSEMBLY
MINISTRY OF AGRICULTURE, LAND AND MARINE RESOURCES, TRINIDAD
INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE
THE FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**



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**EDITOR:
PAMELA COLLINS**

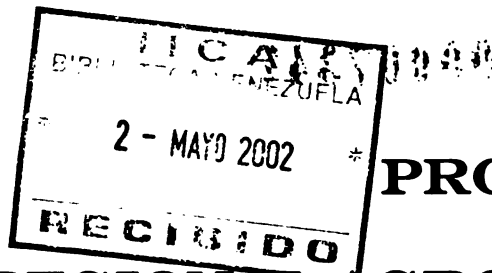
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OPENING CEREMONY



WELCOME

Dr. Elton Bobb

*Chairman of the Conference Organizing Committee
Director of Planning, Tobago House of Assembly*

Representatives of collaborating organizations, delegates from the international, regional and national communities, special guests and other supporters, it is my pleasure and honour as Chairman of the Conference Organizing Committee to welcome you all to this Regional Agro-tourism Conference. We have been told that there have been similar initiatives of this kind in the past. However, we want to believe that this conference, given its timelines, as well as scope, offers a most important opportunity for exploration, reflection and introspection on issues that are of vital importance to the future development of the two most important economic sectors in the Caribbean.

The idea of this conference was born out of an in-depth process of analysis undertaken by the Policy Research and Development Institute and the Planning Department of the Tobago House of Assembly, over the past two to three years. This analysis led to the preparation of a Tobago Development Plan in which agro-tourism was identified as a primary strategic element for the future development of the island.

In recognition of the sameness of historical, cultural and economic experience of many of our Caribbean neighbours, it was decided that the mounting of a regional forum to further explore this thematic, could be beneficial, not only to the process of developmental thinking in Trinidad and Tobago, but indeed throughout the wider Caribbean.

It is this forum, titled the Regional Agro-Tourism Conference, to which you have come. May I take this opportunity to thank the myriad of contributors, supporters and well-wishers, who have worked so tirelessly to make this event a success. Most importantly, many thanks to you the delegates who have adjudged this event to be of extreme importance, as is evidenced by your presence here today. I trust that you will find the conference, stimulating, educational and enjoyable.

Once again, on behalf of all the members of the Organizing Committee, a very warm welcome to Tobago.

GREETINGS

*Dr. Donovan E. Robinson
Representative, Trinidad and Tobago, Guyana and Suriname
Food and Agriculture Organization of the United Nations*

Representatives of co-hosts and collaborators, presenters, delegates, and other specially invited guests, it is a pleasure for me to bring you greetings from the Director General Dr. Jacques Diouf, on the occasion of this Regional Agro-Tourism Conference. The Food and Agriculture Organization (FAO) considers this event a most timely and important one for the Caribbean particularly given the current developmental trends of both sectors in the region.

By now I'm sure that most of us have recognized the significant level of threats and opportunities which now confront our regional agricultural sector, ostensibly because of the tremendous and rapid changes in the framework of international trade precipitated by the last round of multilateral trade negotiations.

At the same time, the tourism sector has shown spectacular levels of growth in the recent past, albeit with its peculiar and particular risks and challenges. Within the region today, and barring the experiences of Trinidad and Tobago, Guyana and possibly Suriname, the tourism sector continues to be the primary generator of direct foreign exchange and a more than significant contributor to gross national earnings.

The FAO has taken cognizance of this reality, and has been working in support of initiatives in this area for some time. On this basis therefore, our organization is well at home in such a forum as this where the issue of agro-tourism is being explored. I am confident that these discussions will be fruitful and productive, and that they will result in the ultimate betterment of all our economies in the region.

I offer my very best wishes that this will indeed be the case, and wish all participants a most enjoyable and productive experience.

GREETINGS

*Dr. H. Arlington D. Chesney
Director, Caribbean Regional Centre, and
IICA Representative in Trinidad and Tobago*

Mr. Hochoy Charles, Chief Secretary, Tobago House of Assembly; Mr. Carlyle Dick, Secretary of Agriculture, Tobago House of Assembly; other Members of the Tobago House of Assembly; Representatives of co-hosts and collaborators; presenters; delegates; members of the media and other specially invited guests, I bring you greetings from the Director General of the Inter-American Institute for Cooperation on Agriculture (IICA), Dr. Carlos Aquino Gonzalez, on the occasion of the convening of this Regional Agro-Tourism Conference. For many reasons, the Institute is especially pleased to be a major cooperant in the hosting of this event. Firstly, it is a manifestation of our theme for the development of the agricultural sector in the 21st Century, 'Agriculture Beyond a Sectoral Approach'. This theme calls for the agricultural sector to encompass the entire food or product cycle, i.e. the sector can no longer be confined to farm activities. In addition, the sector must have definite linkages with the other productive sectors, with tourism as a key final member in the food/product cycle being very important. Secondly, it is for IICA in the Caribbean of even greater importance, given that of IICA's five administrative regions, the Caribbean region is possibly the only one in the hemisphere in which tourism is a dominant economic sector.

As an organization involved in promoting the development of the agricultural and rural sectors, I believe that we must develop significant and meaningful linkages between the agricultural and tourism sectors, the two key economic sectors in the Caribbean as a region. These linkages must embody the entire project cycle, i.e. from conceptualization to planning to implementation and finally monitoring and evaluation. This total integration is essential since both sectors compete for the same resources especially, land, water and human resources. Both sectors also depend on a sound strategy of wise use and management of the natural resource base in order to sustainably, and optimally foster economic growth. A regional discourse on agro-tourism is therefore extremely relevant, and more than necessary particularly at this time.

I am confident that this conference will offer participants an opportunity to discuss and exchange ideas on these issues, which can only help to foster a better understanding of the requirements for the future developments of this sector.

May I take this opportunity to thank the collaborating institutions for their enthusiastic and overwhelming contributions towards this initiative, as well as the presenters and delegates for their participation. An important occasion such as this would not have been possible without your presence.

Once again, on behalf of IICA, and indeed on my own behalf, I offer my sincerest wishes for a fruitful four days of deliberations.

GREETINGS

*Mr. Narine Lackhan
Director of Forestry*

Ministry of Agriculture, Land and Marine Resources, Trinidad and Tobago

Representatives of co-hosting institutions, presenters, delegates, members of the Organizing Committee, and specially invited guests, on behalf of the Minister of Agriculture, Land and Marine Resources, the Honourable Trevor Sudama, and the government of the Republic of Trinidad and Tobago, it is my honour and pleasure to welcome you to this Regional Conference on Agro-tourism. Indeed, it is a special privilege to be associated with such an important event as this, given that it represents tangible evidence that those of us charged with the responsibility for charting a new way forward for the agriculture and tourism sectors have come to recognize the inextricable linkages which are necessary for the development of all sectors of our regional economies.

The evidence of growth in the tourism sector of the Caribbean over the recent past, coupled with the new challenges to the regional agriculture sector consequent upon the results of the last round of multilateral trade negotiations, makes it imperative that we seek new ways and strategies to optimally manage all the economic resources available to us. In this regard, I consider this Conference to be of extreme significance and importance.

The Ministry of Agriculture, Land and Marine Resources supports the view that the growing tourism industry provides opportunities for achieving this country's policy objectives in the areas of agro-processing and food and nutrition security. At the moment, 55 hotels provide some 2,200 rooms and the present rate of growth in the hospitality industry suggests the need to broaden and strengthen the linkage between agriculture and tourism.

The demand for primary and value-added indigenous food products by the tourism industry is increasing, as tourists are known to be interested in tropical fruits and processed products not readily available in their own countries. The capacity and willingness of the agriculture sector to supply fresh and processed quality products in the required quantities and within agreed timeframes are critical imperatives, which must be present if the opportunities are to be seized.

Strategies and projects designed to penetrate and capture tourism market share must be developed and implemented. Appropriate research in local foods and beverage potential must be undertaken which will lead to the development of products for which demand exists or can be created in the hospitality industry. In this way, the utilization of local produce and materials as well as the promotion of local cuisine, can be aggressively pursued as national policy objectives. The availability of requisite skilled human resource at each level must be examined and the shortfall addressed through relevant training.

The opportunities for effective linkage between agriculture and tourism will thus be better explored when the above measures and others are implemented and have matured, and will result in a sustainable approach to growth of both sectors.

Over the next few days, you will have the opportunity to share with, and benefit from, collective wisdom and experience of experts, agencies, and entrepreneurs in matters such as policy, the environment, human and social issues, and institutional perspectives, all of which I am confident do hold implications for the development of both the agricultural and tourism sectors. It is my hope and wish that your deliberations would be fruitful, and that you would have gained from the experience in such a way as to positively influence the future development of our region.

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I am also confident that Tobago, with its special ambiance and hospitality will provide the ideal environment for such reflection and introspection. Once again, I offer my warmest welcome to Trinidad and Tobago and my Minister's best wishes for a successful four days of conferencing.

PRODUCT INNOVATION: REFLECTING ON THE PROSPECTS FOR AGRO-TOURISM IN THE CARIBBEAN

Professor Clive Thomas
Institute of Development Studies, University of Guyana

INTRODUCTION

The timeliness and significance of this regional agro-tourism conference should not go by unappreciated. It is a novel idea, which my experiences since being asked have confirmed. Everyone, without exception, to whom I had indicated that I was giving the feature address at this conference has asked me the same question: What is 'agro-tourism'? When I responded to the questioners by asking what they thought it meant, the most common view among those who were brave enough to venture a reply was that it had something to do with the role of local agriculture in supplying food and drink for tourists. The notion of agriculture itself as a tourist product was never once acknowledged – thereby, I believe, underscoring the timeliness of our gathering.

Since being invited, I have reflected on my personal experiences with the product, and I have come to realize that my contact with it has been far more extensive and varied than I had at first imagined. A quick review showed that these experiences included:

- Colgate University (Hamilton area/pumpkins and Halloween)
- An up-state New York intellectual retreat, which was held on a farm
- The 1997 George Beckford Agricultural Lecture in Barbados, which was given at a tourist complex built around an old Bajan plantation
- Visits to cocoa, coffee, and banana farms in Grenada
- Visits to sugar estates in a number of Caribbean countries
- Visits to citrus groves and cattle ranches in the Intermediate Savannahs of Guyana.

Having said that, it is also my belief that persons who are familiar with such glimpses of agro-tourism are not aware that it has been around for more than a century now. It is a well-established industry in places like Europe, Ireland, the USA, Australia and New Zealand. More recently, Canada has announced its intention to become the world leader in this industry. And, in the developing world, Thailand has launched a 1998–2001 plan to develop the sector around a global launch of Thai herbs (as food and drink) in world markets, as well as the promotion of visits to orchards, vegetable plantations, silk factories, and the traditional standby of 'fresh-fruit pick and buy'.

My task as the keynote speaker is to provide a framework, which hopefully would help to guide our deliberations over the next few days as to how best to frame agro-tourism development within the Caribbean. Clearly such a framework would have to deal with many issues, including (i) the nature and content of the product itself, (ii) the potential configuration of the market for agro-tourism, taking into account the potential producers (and therefore issues of cost, number and type of operators, and scale of operations), and the potential consumers (and therefore issues of price, promotion and advertising) and (iii) the distribution networks for the product. With the limited time at my disposal I have assigned myself four major tasks.

TOURISM AS THE LEADING SECTOR

The first task is to frame our discussions in the broad context of development trends in tourism as a global industry, and within the specific confines of the Caribbean.

At the global level, I merely wish to highlight three points:

- Unlike the past, in this age of globalization and the scientific, technological, and informational revolution, which propels it, competitiveness is both price and innovation driven. In former times competitiveness in world markets was largely driven by price. Today, it requires both price and innovativeness.
- In the face of this new reality tourism has emerged as the world's largest industry. It is expected to earn about US\$700 billion this year, rising to US\$1 trillion by 2010. It employs about one in every nine workers. In keeping with other global industries, it is highly concentrated, with 75% of global tourist visits occurring within the triad of the USA, the European Union, and Japan.
- Within tourism, the culture-heritage segment, which as we shall see has some close relation with agro-tourism, is the fastest growing (15% per annum, and presently accounting for 37% of the total tourist market).

Within the Caribbean region:

- Tourism is also the largest industry. Indeed the region is generally considered to be the most tourist-dependent worldwide. Tourism accounts for 31% of regional Gross Domestic Product (GDP), 25% of all exports of goods and services and there are an estimated half-a-million employees in tourism and tourist-related activities. The industry grew by 5% in 1999, and it is projected that by 2010 tourist arrivals will increase by 35% for all of Latin America and the Caribbean. This would require, within the Caribbean area, a 20% expansion in room capacity. Already more tourists visit the Caribbean than all of South America. Further, excluding Mexico, the number of visitors to the Caribbean is 4.5 times as large as those to Central America.
- Like the global industry, tourism is very unevenly developed within the region (Table 1). Of the nearly 14 million tourists last year, the largest concentration was in four countries: Puerto Rico, Dominican Republic, Cuba and Jamaica (60% of the total).
- The growth of Caribbean tourism has seen significant product innovation, which has often not been sufficiently acknowledged because, I believe, of the sun, sand, and sea focus that it takes, and which it has become associated with. Thus apart from the region's distinctive improvement on the all-inclusive concept, it also claims 60% of all international scuba diving tourists; 57% of all cruise visits; a growing segment of sports (cricket) tourism; eco-tourism (the Latin America and Caribbean region is ranked number one in biodiversity i.e., mammals/birds/plants/per 1000 km²); cultural-heritage tourism and the nascent agro-tourism sector which we are gathered here to discuss.
- While in general the region's tourism product is considered to be relatively high-priced, two of its leading markets (Cuba and the Dominican Republic) compete heavily with price. Cuba is expected to have 2 million visitors this year, up from about 0.4 million in 1990, and projected to reach 7 million by 2010. The Dominican Republic expects about 3 million tourist visitors this year, about twice the total in 1990.

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Table 1 Caribbean/Latin America 1998 stayover tourist arrivals

REGION	COUNTRY	VISITOR ARRIVALS (000s)
Caribbean	Anguilla	44
	Antigua & Barbuda	226
	Aruba	647
	Bahamas	2
	Barbados	512
	Bermuda	369
	Bonaire	62
	Cayman Islands	404
	Cuba	1,390
	Curacao	199
	Dominica	66
	Dominican Republic	2,333
	Grenada	116
	Haiti	149*
	Jamaica	1,225
	Martinique	549
	Montserrat	6
	Puerto Rico	3,396
	Saba	11
	St. Eustatius	9
St. Kitts & Nevis	90	
St. Lucia	252	
St. Maarten	459	
St. Vincent & Grenadines	67	
Trinidad and Tobago	278	
Turks and Caicos	106	
U.S. Virgin Islands	527	
Sub Total	13,345	
Central America	Belize	157
	El Salvador	542
	Costa Rica	943
	Guatemala	36*
	Honduras	318
	Mexico	19,810
	Nicaragua	406
	Panama	431
Sub Total	23,243	
South America	Argentina	4,860
	Bolivia	399
	Brazil	4,818
	Chile	1,757
	Colombia	1,544*
	Ecuador	250*
	Guyana	76*
	Paraguay	350
	Peru	747*
	Suriname	84*
	Uruguay	2,463*
Venezuela	800*	
Sub Total	12,184	
TOTAL		13,345

(* estimate)

Source: *Caribbean/Latin American Profile, 2000 pp A46.*

DEFINING AGRO-TOURISM

Having described the broad global and regional context, the second task is to have some clarity on what agro-tourism should represent in the region. We cannot advance our discourse very far if we are not clear on what is meant by agro-tourism. I shall not attempt a definition at this early juncture of our deliberations, but it is clear already that certain properties are essential to the product, namely:

- It should involve direct interaction between the agricultural producer, the products of that producer located within the agricultural environment, and tourists.
- In the latter regard, a tourist has to be distinguished from the regular/irregular short-run visits to buy produce in the countryside which we have all made at one time or the other. The distinguishing elements might well be i) the duration of visit, ii) the distance traveled and, iii) whether pleasure or a learning experience was the main incentive for the visit.
- Agro-tourism should not be conflated into the broader concept of rural tourism. It is that segment of rural tourism which emphasizes the direct interaction of the sort mentioned above, with the result that the direction of its benefits flow primarily to agriculture.
- By its very nature, agro-tourism in the region will necessarily have a close relation to certain other types of tourism, such as culture-heritage tourism, eco-tourism, adventure tourism, special interests tourism, learning tourism, and health tourism (e.g. the Thai herb project).
- The potential mix of products within agro-tourism is wide, and should not be confined to one type. This mix would include: home-stay and farm-stay holidays; agricultural fairs and festivals (crop over!); fixed attractions and events; markets; related farm activities (e.g. fishing, hunting, bird-watching); horse and carriage rides; hiking, camping and picnic sites; craft and food stores; educational tours; fruit-picking.

BENEFITS AND COSTS OF AGRO-TOURISM

Having described/defined the product, the third task before us, would then be to determine the potential economic benefits and costs that agro-tourism can offer. The potential economic benefits can be classed into six broad categories, namely:

- The benefits of economic diversification at the farm level, the rural level, and the national economy, which agro-tourism makes possible.
- The potential it offers for expanding the demand for agricultural produce, both within domestic and export markets.
- The likely contribution of this product to reducing farm risk and providing stability to farming incomes.
- The potential it offers for linkages, multiplier and spillover effects into other branches of the rural economy (e.g. rural services).
- The externalities that agro-tourism offers, particularly in the form of cultural and social benefits, and those to be derived from a recognition of the special role that agriculture and the rural community have played in Caribbean life.
- Employment and job-creation benefits. Because of its service characteristics, it would be difficult to replace the dependence on persons in the delivery of agro-tourism services, so that the industry is likely to be labour intensive.

The major potential economic costs of agro-tourism as an industry in the region are likely to fall into four categories:

- *Agriculture decline:* It can lead to diversification out of agriculture and/or reduced agricultural output, as operating units find it more profitable to strengthen the tourism product and reduce reliance on crop production.
- *Environmental costs:* These are already high in the existing tourist industry, and the risk is that these may be carried into the rural areas with serious consequences, if the industry is not properly regulated and environmental standards enforced.
- *Bio-piracy:* Many developing countries have debated the potential for bio-piracy or the threat of the theft of indigenous biodiversity, which arises when large numbers of tourists are allowed/encouraged to visit rural areas and communities in the developing world.
- *Infrastructural cost:* In order to meet the highest standards found in other tourist products, considerable investments will be required in the physical, social and institutional infrastructure in the agricultural sector, even prior to the serious promotion of an agro-tourism product.

THE POLICY FRAMEWORK

The final set of tasks would be to develop an appropriate policy framework. This would seem to me to have a number of essential components to it:

- i. In order to promote a successful agro-tourism programme, policies aimed at providing the education and training necessary to operators in this endeavour are required.
- ii. It is necessary to have in place policies which ensure the planning and coordination of activities within agro-tourism, as well as those designed to promote it from the outside. Experience elsewhere reveals a tendency for offerings to be dispersed and widely varied in their content. There is often a noticeable lack of a well-conceived package of agro-tourism offerings, which hampers the growth of the industry.
- iii. Policies are required to ensure the promotion of the product in appropriate markets. To be successful, these should be based on the foundation of a firm database, appropriate market surveys, advertisement, and promotional activities.
- iv. It is necessary to put in place an appropriate incentive and regulatory framework. The incentive framework would have to cover the usual gamut of issues: fiscal, credit, other publicly provided development loans and resources, as well as resource flows from private financial markets. The regulatory framework pertains to issues such as health and safety standards, aesthetics, on-farm food preparation, personal security and ethical and credible truth-in-advertising. This would also include issues of labelling and the adoption of 'good practice' methods. An appropriate balance between regulation and incentives would have to be determined as well as a proper balance between voluntary self-regulation and public regulation of the sector will have to be established. Experience shows that the regulatory framework works best when it is market-driven and not bureaucratically burdensome and restrictive.
- v. Policies will have to be designed to ensure a synergy and harmonization of agro-tourism with other segments of tourism, particularly the related ones mentioned earlier (culture-heritage tourism, eco-tourism, health tourism, learning tourism, and special interests tourism).

- vi. Issues of scale, size and resource mix will have to be addressed with appropriate policies. These would depend on the scope of agricultural offerings to be linked with tourism (e.g. types of crops; cultivation/harvesting/processing; preparation for eating; the farming skills involved; related skills).
- vii. Infrastructure issues will also have to be addressed, particularly in the context of the over-stressed infrastructure in all areas of existing tourism: roads, water, sanitation, sewage, power, environment, health facilities, airports and docks.
- viii. Policies for the promotion of research and development in the subsector are required, if innovation – one of the two cornerstones of competitiveness – is to be endogenized within the sector.
- ix. Agro-tourism has nowhere to go, if it is not introduced within a sustainable development framework. This means laying stress on feasibility-cost /benefit studies, market surveys, EIAs and environmental planning, and carrying-capacity analysis. At all costs the negative environmental effects of existing tourism should not be replicated in agriculture. Such an approach requires policies to secure the involvement of rural communities and the principal stakeholders in the design of the agro-tourism sector.

CONCLUSION

In conclusion, it needs to be stressed that any agro-tourism product produced in the region will have to be competitive at the global level, which means that price and innovation are key to its prosperity. Having said that however, global developments which are unfolding will certainly have a tremendous impact on the prospects for this endeavour. To my mind, the liberalization of trade in services under the GATT-WTO umbrella, along with the removal of restrictions on foreign ownership (entry and establishment), the prohibition of stipulations requiring local inputs into tourism, and the right to free movement of persons associated with trade in services, together constitute a virtually irreversible process, whose outcome will have a profound impact on the movement of capital, know-how, and skills at the global level. These will undoubtedly result in the far-reaching transformation of the present ownership and management structure of all subsectors of tourism, including agro-tourism. For example, we had earlier remarked on the tendency towards concentration in this sector both at the international and regional levels – this is likely to continue. There is also likely to be a growing tendency towards the development and enforcement of global standards and a uniform method for the certification of all tourism products. Planning for the future development of agro-tourism has to keep such considerations to the forefront. We must therefore, think globally and plan locally.

ADDRESS

*Honourable Hochoy Charles
Chief Secretary and Secretary for Finance and Planning,
Tobago House of Assembly*

Let me welcome all of you to Tobago. And to our Caribbean international guests, I extend to you a very special and warm welcome to our country – the Republic of Trinidad and Tobago. It is certainly a pleasure to have all of you here to inform us and to share your experiences with us.

On behalf of the Assembly and the people of Tobago, I wish to publicly thank the Inter-American Institute for Cooperation on Agriculture (IICA), the Food and Agricultural Organization (FAO) and the Ministry of Agriculture, Land and Marine Resources for co-hosting this very important conference with the Assembly. This collaboration was only possible because of the close and fruitful working relationship the Assembly has developed with these institutions over the years. Let me give the assurance that we here in Tobago are keen to continue and to strengthen such relationships, since we are convinced that they augur well for national development.

This conference and its final outcome are very important to the Assembly and Tobago, particularly given the importance that we have attached to agro-tourism in the Tobago Development Plan. Our vision and philosophy for Tobago's development is clearly outlined in that Plan. In it we have stated that Tobago's basic challenge is to find a strategy to govern with the rest of the nation and the world.

BACKGROUND

In that context this occasion of the first Regional Agro-Tourism Conference in Tobago is historic. In many ways, the Conference represents some of the fruits of the bold steps taken by the Executive Council of the Tobago House of Assembly in the last four years to establish new foundations for the development of Tobago, Trinidad, the OECS, and the wider Caribbean. When we took office, we saw behind us a long history of many development challenges that we had generally failed to confront successfully. Our traditional exports of bananas and cocoa have essentially died; sugar was stillborn. We were left here in Tobago with government as our major industry. Government in Tobago, in particular the Tobago House of Assembly as it had developed over the last twenty years, is one of the few successes the people of Tobago have scored.

At that time, we saw before us the challenges of a modern world of apparently free competition that is being established under the general management of the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), and counterpart organizations such as the World Bank and the IMF. These challenges are developing in a world in which new information technologies, new communications technologies, new concerns with environmental sustainability, community empowerment, equality of opportunity among sexes, and individual responsibility are creating new opportunities for success, while raising the risks of failure if we are not careful. The new Executive Council had to act, wisely.

FUNDAMENTAL PRINCIPLE AND TOBAGO'S OPPORTUNITY

The most fundamental principle of participation in the intense competition for development opportunity in this globalized world of the 21st century is that nations will have to rely increasingly on local ideas and skills in order to succeed. New local ideas are now labeled 'intellectual property' because of the current efforts of WIPO to guarantee

private rights to such ideas. The Executive Council understood this when it took office in December 1996, and took action accordingly.

Our first strategic step was to assemble the best of Tobago's scholars as the Tobago Plan Team, to bring together their ideas – their intellectual property – to guide the people of Tobago. The team's mandate was to develop a strategy and plan for successful participation by Tobago in the world economy and society of the early years of the 21st century, and to lay unshakeable foundations on which our people must continue to build for the future.

ENGINE OF GROWTH – AGRO-TOURISM

When the Tobago Plan Team finally submitted its report, it placed before us a Plan, the Tobago Development Plan, to be driven primarily by a major engine of development, a strategic activity that could include all the people of Tobago. That engine was agro-tourism. As practised in Tobago, agro-tourism is encased in a strategic development vehicle, a cluster of activities in tourism, entertainment, hospitality, and related manufacturing upstream and downstream of tourism and agriculture.

WHAT IS AGRO-TOURISM?

There are four pivotal ideas in the concept of agro-tourism that the Plan Team laid before the Assembly. Firstly, agro-tourism is a combination of agriculture, industry and tourism services that offers all the advantages of industrial society without many of the pains. Agro-tourism is not eco-tourism and it is not the introduction of agriculture into tourism. Its whole objective is agricultural re-development.

Agro-tourism is a system of industry which transforms agriculture by introducing into our traditional agricultural estates and other non-traditional farming operations, a form of tourism, entertainment, hospitality or related downstream industrial activity that can be a successful enterprise.

Secondly, agro-tourism is a form of activity that will use intensely the local ideas – the intellectual heritage and new intellectual property – of our people, accumulated over four hundred years of struggle here in Tobago. Our ideas can be intangible products, like music used on our agro-tourism plants; can be embodied in tangible products like CDs or like cars remodeled for the tropical environment and environmental protection, or drums, all sold at agro-tourism plants distributed in relation to agro-tourism activity. We can also make gains by granting licenses at a fee to others who want to make use of our ideas.

Thirdly, agro-tourism is a system of production which is based on a unity of purpose between worker and managers, backed by clear ownership and work arrangements that are socially cohesive and which promise to each participant a fair share of the monopoly rents and profits that are won. Each person working in an agro-tourism plant is an owner of some share of the plant's assets – the lands; the homes and other buildings; the local and international goodwill; the knowledge; and the power to make policy.

Each person is in the system, in a self-reliant way, acting out of both self-interest and the realization that cooperation brings greater rewards than disharmony. Yet, some will be employed as paid workers on site, and some will be independent contractors operating satellite farms, touring enterprises, or others agro-tourism activities.

Agro-tourism – a sustainable approach to economic growth

In each case, the specific arrangement is worked out, without prejudice to the need for effective and successful and collaborative management, and designed under the principle that whatever arrangements are worked out, are subject to the rule of current and developing regulations made mainly by the local community.

As our people work to achieve common goals through these ownership and management arrangements in agro-tourism, they work with dignity and with ever-increasing effort whether they are independent business-persons and contractors or they work for a wage or a salary.

Fourth, agro-tourism is a community-based local area network or industrial cluster. In each community, it is an estate development system, so to speak, that is led by an institution of collaboration, a cluster organization, that brings together the traditional business organizations, such as Chamber of Commerce, non-governmental organizations (NGOs), and institutional powers of local and island government. Thus, it is Tobago's key community empowerment on an island scale. Through this type of institution, each agro-tourism enterprise is supported by adequate schooling, education and research, adequate and relevant marketing and financing arrangements, and adequate control over all aspects of public policy.

In agro-tourism, land tenure and land-use policy are first and most importantly expressed in law developed and passed in the local community. The same is true for policy with respect to marine resources, research and education, sports, libraries, business development, festivals development, environmental policy, including noise policy, community policing, and any other policy that might directly affect the enterprise and its community. In agro-tourism, the members of the community make important policies that govern their lives and are responsible for implementing them. These include poverty policy and the social safety net.

By providing a nurturing and supportive environment for bringing novel ideas to bear on the process of social and economic development, agro-tourism allows local enterprise to penetrate the domestic and international market by relying for leadership first on local consumer demand. Here, we are talking about exotic foods, herbs for medicine, music and entertainment, manufacturing downstream and upstream of tourism, and related industrial activity.

All of this must be supported by a process of political development in every community; a process that allows the community interest and the national interest to rise above that of the individual's, when relevant. Otherwise, to stimulate creativity, we let the options and responsibilities of the individual and the family grow relative to the system as a whole. In other words, we must let people run their own lives and keep government out of their business as much as possible.

DIFFUSION OF IDEAS AND EXPANSION OF CHOICES

The basic concepts and principles of agro-tourism, as elaborated in the Tobago Development Plan, and in its supporting documents, are now public property in Trinidad and our wider Caribbean.

St. Lucia has an agro-tourism programme, and an agro-tourism conference is currently being planned for Jamaica. The government of Trinidad and Tobago has obtained and distributed at least 72 official copies of the Tobago Development Plan and, from all indications, is now incorporating these ideas into its own programme.

We understood that this is how things would work when we took the steps to get the Plan prepared. Given the nature of ideas, the principles and programmes identified by the Tobago Plan Team would inevitable spread to

Trinidad and throughout our entire Caribbean nation. This is as it should be. If we are to succeed here in Tobago we must be in the business of influencing or making change in the whole region, not just on our small island.

The idea of agro-tourism is just one of the many gifts Tobago plans to give our people. This is why I have taken the time here to clarify what the Tobago Plan Team intended and what the Tobago House of Assembly fully endorsed. That is also why we have put up our money to co-sponsor this Conference although money for the Assembly is a resource that is extremely hard to come by. We get some only after tough battles and long delays. Our financial support hardly measured up to the depth of our commitment to the idea.

I expect that, as a conference of the finest Caribbean thinkers in the fields of agriculture, tourism and related areas, your discussions of the idea of agro-tourism will add even greater light to what the Tobago Plan Team envisaged. You should feel encouraged to think boldly and speak freely, reaching all the time for fresh ideas that will spread among our people. The current acceptance of the idea of agro-tourism, as distinct from eco-tourism, as an appropriate description of many aspects of the practice of agriculture and tourism is proof that we are truly ready for a major change of perspective in the Caribbean. We have taken this approach to link tourism and agriculture because we know that lack of a strong linkage between tourism and local agriculture, as evidenced by the rapid increase in food imports for tourist consumption in most of the Caribbean islands, has been, and still is, a major concern of policy-makers and development students of the region. Therefore, increasing local and regional food output for meeting the increased tourist food demand, so as to reduce, as much as possible, the leakage of the tourist dollar from the region is thus an imperative. Yet there are few programmes or projects designed to specifically tackle this problem. I view this conference as a meaningful attempt at identifying strategies and policies to address this problem. So do not be afraid to be creative and innovative.

We can encourage you in this way because when we started we also needed that faith. We knew that the majority of people in the nation, and even in the world would not understand great ideas when they are first expressed. The ideas of Arthur Lewis, Lloyd Best and Kari Levitt, are still being debated around the Region, many years after they were first published. Most people do not have the ears to hear because they do not like change, or did not come up with the ideas, or some such thing. As a consequence, most people also do not support bold steps that are taken to make progress until they see the gains from those steps right before their eyes; until they see actual fruits begin to ripen. We did not expect a chorus of support, but we knew that in the end our people would see the light and we acted out of deep-seated belief and trust in our people. The history of Caribbean people proves that there are always enough people who have the necessary ears to hear. Do not forget Toussaint, Cudjoe, Boogie, and our own Sandy and Sampson here in Tobago, or C.L.R James, or A.N.R. Robinson.

EXPANSION OF CHOICES: A BETTER LIFE FOR ALL

You should feel encouraged to think boldly and creatively because there is good reason to believe that agro-tourism is a major way forward to achieve a socially and environmentally sound and sustainable agriculture and tourism. In short, agro-tourism can serve as a major cluster of activities through which the choices of our people can be expanded. With respect to income and the standard of living, our farmers, fishermen, tradesmen, students, all will do better, strengthened by the more viable tourism enterprise and the new agriculture and fisheries to which it gives birth.

Our knowledge will grow through conferences such as this and through relevant schooling, and especially through the self-knowledge and self respect that our many and varied innovations will bring. And, agro-tourism will contribute to longer life – triggered by our environmental programmes and our programmes to beautify the physical

environment of our people and enrich our souls in a new participatory democracy in which men and women can contribute ideas and shape action effectively. In my view, this is what the United Nations Development Programme (UNDP) has been calling for in its Human Development Reports of the last decade. In Tobago, we have been more blunt to make Tobagonians rich materially and spiritually.

The people of the Caribbean expect that as you deliberate and add new impetus to the original idea of agro-tourism, you will help to shed new light on how we can meet the UNDP's repeated challenges to create a better place in the Caribbean with better opportunities for all our people.

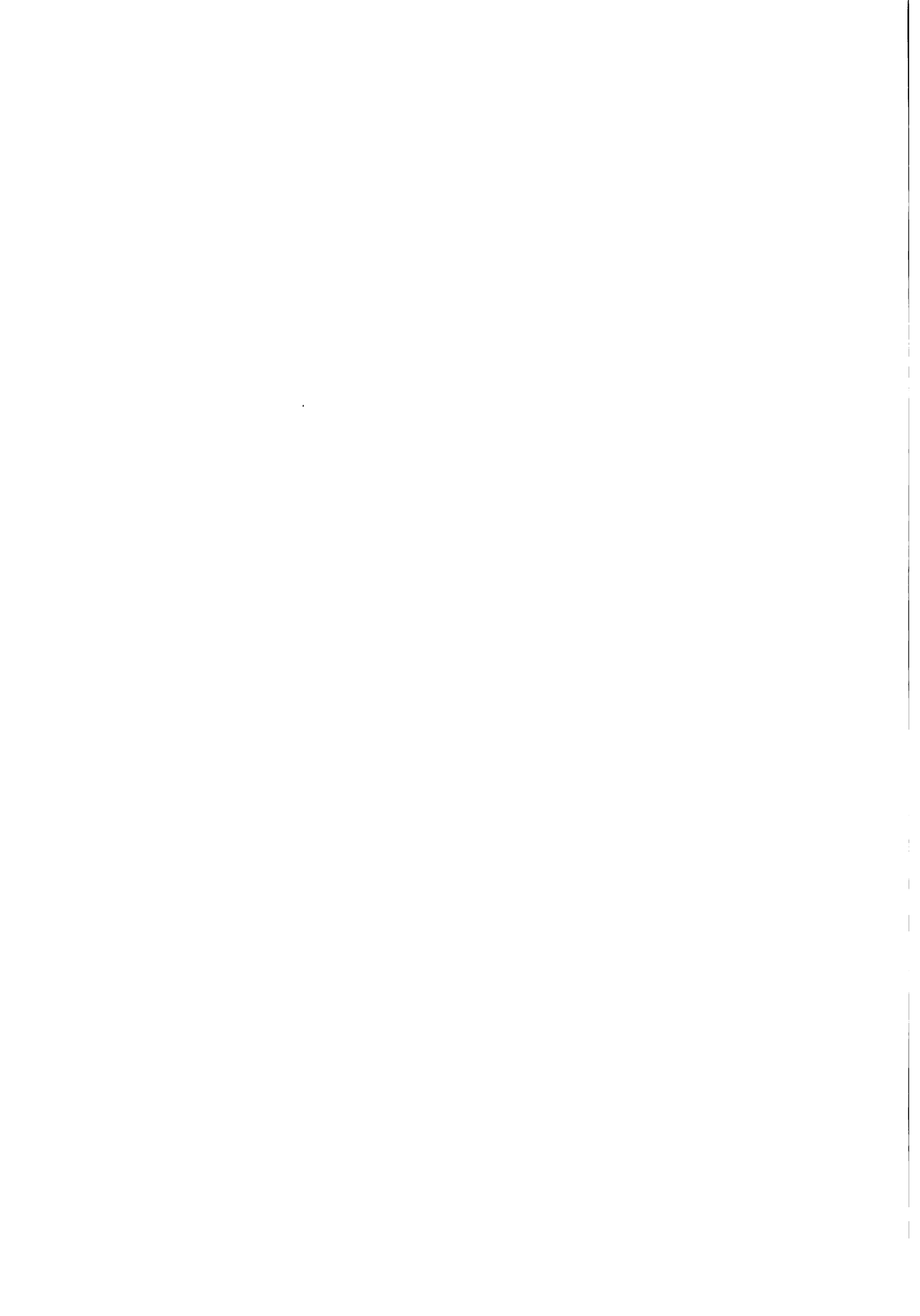
In closing, let me say that I observe that the participants and presenters of conference paper come from far and wide. This is no accident; it reflects the approach of this Assembly in planning for Tobago's development. We have approached our task with a clear understanding that among the resident population we do not have all the answers. Experience from around the world would have also indicated to us that we need to learn from other people's experiences. The coming together of minds from different regions and cultures is critical in generating novel ideas and generally leads to cross-fertilization of skills and know-how. To give an example; when the Tobago Development Plan was prepared we actively invited comments from the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), the United Nations Conference on Trade and Development (UNCTAD), The University of the West Indies (UWI), Caricom Secretariat, various ministries of the Central Government and some staff members of the World Bank and the Inter-American Development Bank (IADB), only to mention a few. The feedback and comments from them were tremendously encouraging. It confirms to me that this Assembly has adopted the correct approach to its task and, more importantly, to socio-economic planning in Tobago.

This approach is all aimed at improving our planning and implementation efforts; it is aimed at improving the lives of our people here in Trinidad and Tobago. If we do otherwise history will not forgive us. All of you are invited because we are sure your inputs to this effort will enrich the conference experience. In the final analysis we will all benefit, since there is a certain synergy, which is generated by us being here together.

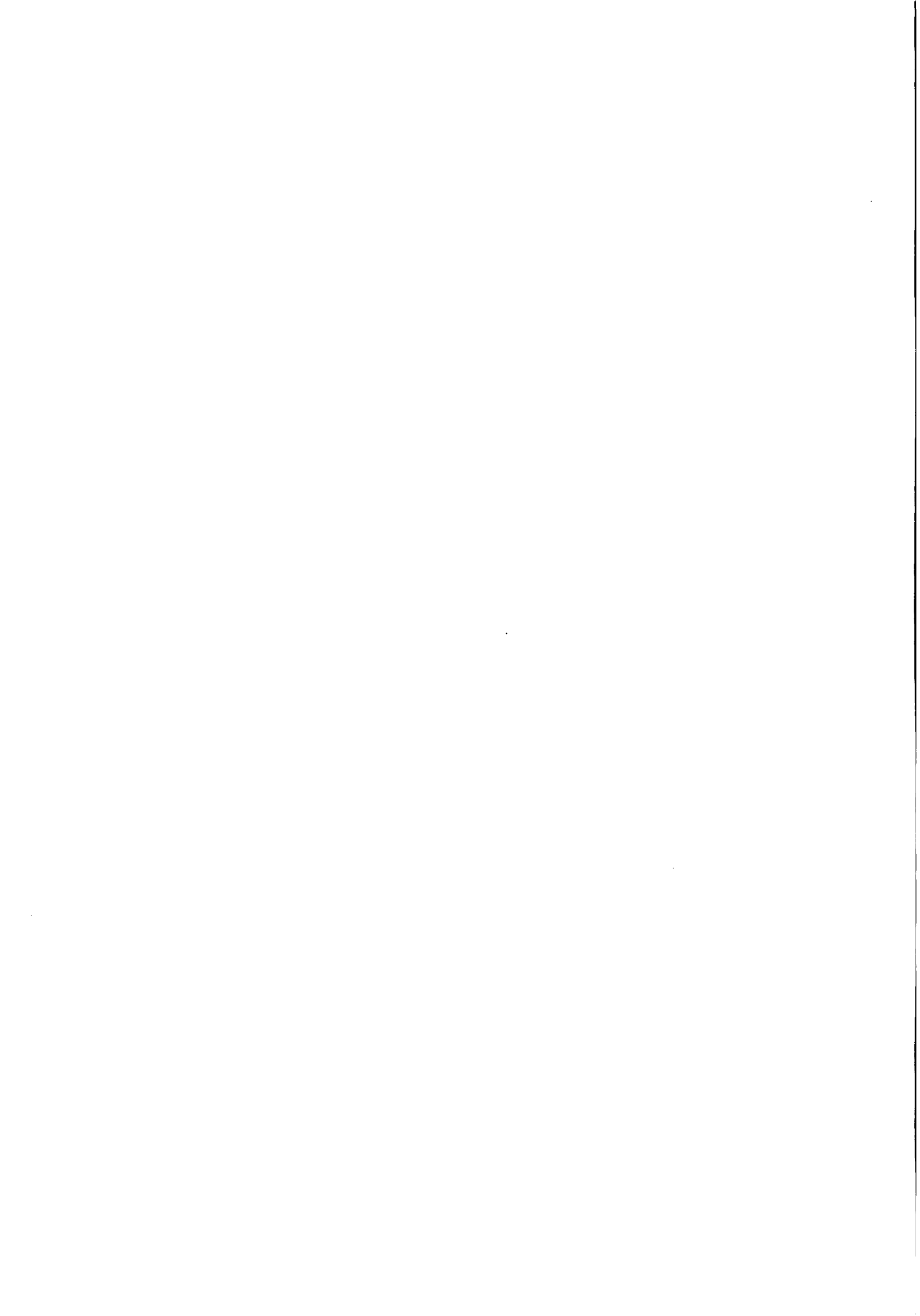
Even though I know, by looking at the agenda, that you have a full programme, I will urge you to take some time for recreation and entertainment. We here in Tobago, as the typical Caribbean personality, are known for our warmth and hospitality. You must take time to enjoy some of it and to know the island and its people better. This is all part of understanding what our general subject matter – agro-tourism – is all about. The experience will be a perfect bridge between the theory of the conference and the practical world of reality, if I can so describe it.

Once again, on behalf of the people of Tobago, I thank all of you for making the effort and taking the time from your busy schedule to attend this conference, the outcome of which is so vital particularly to Tobago's development and generally to Trinidad and Tobago's development and to Caricom's development, especially in the light of globalization and the World Trade Organization rules. I now take great pleasure in formally declaring the Regional Agro-Tourism Conference open and to wish you three days of fruitful and meaningful deliberation and God's richest blessings.

Agro-tourism – a sustainable approach to economic growth



**AGRO-TOURISM:
ISSUES AND CONTEXT**



AGRO-TOURISM: NEW DIMENSIONS OF INDUSTRIALIZATION IN THE CARIBBEAN

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INTRODUCTION

The purpose of this paper is twofold. Firstly, it is to clarify the concept of agro-tourism. It seeks not only to say what it is but, even more importantly, what it is not. Secondly, it seeks to explain its role as a component of industrial strategy in the Caribbean. In essence the paper attempts to outline a conceptual framework of agro-tourism.

The paper is written from the perspective of the Caribbean political economy of effective demand as distinct from the political economy of price-taking behaviour. Effective demand argues that success achieved by households and firms in the Caribbean relies on the ability of these units to creatively adjust supply and the conditions of supply (economic, political, social and technological) or to adjust activities and methods of doing them, rather than relying on their ability to adjust the terms of exchange, in order to meet the challenges of modern life (Keynes 1936; Lewis 1950, 1954; Best 1980).

The concept of agro-tourism fits into this principle and it is for this reason that it can be viewed as a critical component of any industrial strategy in the Caribbean

THE NEED FOR INDUSTRIAL STRATEGY

We start with the understanding that a healthy industrial strategy depends upon combining competition with cooperation. This in itself has far-reaching implications for public policy. It suggests that the task of industrial policy is not to establish an ideal as defined in the neoclassical sense but instead it is how to administer a paradox – that is, cooperation and competition. For cooperation alone can ensure that commitments are made to the long run infrastructural development of the respective sector. And, on the other hand, competition alone can ensure that business enterprises remain innovative and responsive to new challenges and opportunities.

We follow UNDP (1999) in taking the fundamental goal of Caribbean society as expansion of social and economic choices, in particular income, longevity and knowledge, along with adequate opportunity to participate in political life. This must be achieved in a world economy that is becoming more and more globalized and competitive. International information and communications technology are drawing nations together and making them more interdependent.

Each nation is coming under increasing pressure to rely on its capacity to engage in free competition as the basis for achieving these goals, with persistent poverty as the penalty for failure. This idea of strategy implies that the task of a country is to choose the form of competition and develop an appropriate organization. For example, firms may compete on the basis of minimum cost or they may pursue Schumpeterian competition in the form of the new commodity, the new technology, the new source of supply, the new type of organization. The idea of strategy also implies that organization is critically important for the success of firms.

Following the completion of the Uruguay round of GATT, international institutions such as the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO) have emerged to coordinate this

agenda. Caribbean countries face this competition with some distinctive competitive characteristics. First, they are still heavily focused on production of traditional primary exports and therefore forced to focus primarily on price adjustments to deal with variations in effective demand. Non-price competition is generally not an option and most Caribbean societies are highly vulnerable to the negative effects of exogenous price and other shocks.

Scholars such as Lewis (1950) and Best (1980) have long informed us that in order to escape the persistent negative effects of such shocks Caribbean society must invent a new industrial dispensation. The dispensation must be based on industrial activity that uses the domestic supply of technology and intellectual output, the most abundant factor of production in the region, intensively. Based on this principle over time the best opportunities for achieving distinct competitive advantage in any set of exchanges is to specialize in those activities that use local knowledge and culture and local institutions most intensively, typically in combination with relevant international knowledge, precisely because local knowledge, institutions and general technology combine to form the most abundant factor of production, which is a special form of capital (James and Celestine 2000). Firms which specialize according to this principle in a real sense can be termed strategic.

Because of the high financial costs to individuals and small firms for participating in most rewarding forms of modern specialization, a new industrial development thrust will not necessarily guarantee sufficient poverty reduction and simultaneous widespread growth among individuals and households. Therefore appropriate policies will have to be put in place to broaden access to investment finance and information for skill and business development and to policy-making opportunities among those households and groups. The reason is that many start with too little assets and too low incomes to compete successfully for expanded choices in an open market.

A shift to focus on the types of activities characterized above, supported by appropriate forms of institutional development and participation, also enables the economy to adjust to variations of aggregate demand by varying supply, and moreover allows the strategic management of aggregate demand to steadily increase the resilience of the society in the face of exogenous shocks and to smooth its adjustment to them. It is in the context of such strategy that agro-tourism fits as one type of activity with attendant social, political, institutional and physical components that industrialize agriculture.

CONCEPT OF AGRO-TOURISM

Perhaps the most important point about agro-tourism is that it is not eco-tourism. Relative to eco-tourism it is a process that breaks the limitations that the eco-system imposes on both tourism and agriculture. Except in so far as the ecosystem presents carrying capacity constraints which are gradually being broken with new technology, agro-tourism is not eco-tourism in any simple sense.

Agro-tourism is the exact opposite of eco-tourism, because the growth of the population and, therefore, the economic activity which the environment can carry are dictated increasingly by the technology, not by the natural characteristics of the ecosystem. In essence the view adopted here is one which sees carrying capacity as being limited by developing human knowledge and social organization rather than by the ecosystem. As technology develops, one can carry more population.

Agro-tourism is also not primarily an attempt to bring agriculture into a tourism environment. It is primarily an attempt to solve the problems of agriculture using the industrial potential of a dynamic tourism. And, it seeks to do that by introducing into the farms and estates a viable tourism enterprise to complete the job left undone by sugar, cocoa, coffee, and bananas. In essence it is tourism that comes to agriculture, not agriculture that goes to tourism.

Agro-tourism is a programme for industrializing agriculture by bringing all the technology and organization of a tourism plant into a farm or estate. In so doing, tourism is also transformed. The chosen strategy attempts to effectively and deliberately develop both sectors as one. Agro-tourism is a new, emerging system. It is not simply about linkages; it is one organic system. This is so because the typical agro-tourism plant is an industrial system that transforms the traditional farm or estate into an industrial service system by locating a tourism plant on the agricultural farm or estate. In this context agriculture is broadly defined to incorporate all land-based agricultural and marine fishery production, processing and conservation activities. The importance of fisheries to agro-tourism in the Caribbean island-economies cannot be overemphasized therefore it must be incorporated into the agro-tourism effort .

Agro-tourism tends to promote conservation and proper resource use. In the initial description of this industrial system, James (1993) described a typical agro-tourism operation as a type of farm industrialized by tourism services, which: "Produces a rational mix of commercial quantities of horticulture, orchards, vegetables and other food crops, livestock including exotic animals. Housing for agro-tourist is a logical part of such a park cum farm. Development of roads, parks, with access roads, water facilities, concession stands and booths could be made readily consistent with provision of storage facilities, loading zones, and/or farm-gate produce stands on-farm purchasing arrangements for farmers targeting the agro-tourism market."

Therefore an essential difference from the old idea of profitable linkages between tourism and agriculture is that agro-tourism relies on modern industrial technology and capital investments to carve acceptable yet profitable beauty, tranquility, mystique and environmental friendliness into the architecture of the physical and social landscape. Finally, agro-tourism is a social system of collaborative ownership by all participants. This might be achieved through shares of stock or some other system of joint tenure. In its original concept agro-tourism was conceived as a system founded on a land reform programme in Tobago, with specific arrangements to bring the typical household or villager, historically dispossessed, into the orbit of ownership and decision-making about all lands in the community. That concept remains relevant today – indeed it is perhaps even more relevant today as communities in the Caribbean cry out for greater control of their lands. In this sense, agro-tourism is primarily a broadly based participatory socio-economic system.

The exploitation of agro-tourism and the potential linkages between tourism and agriculture, tourism and services (food, accommodation, tours, transport, cottage-based products) provide a sound basis for establishing economic and socially viable communities. But even more critically it is part of a transformational policy for agriculture since it creates a specific interrelationship between a growing strategic sector, in this case tourism, and a declining sector. When viewed from this perspective one sees that fledging elements of agro-tourism have long existed in the Caribbean; the challenge now is to develop or build on it.

TECHNICAL CONDITIONS FOR THE SYSTEM TO FUNCTION

For the agro-tourism system which is described above to work there is the need for:

- Technical clustering
- Institutional clustering
- Management of effective agro-tourism demand.

Technical clustering

The essential idea here is that agro-tourism is based on integrated technical services in areas such as water management, trunk and access roads, landscaping designs for the entire agro-tourism effort, housing and plant designs, as well as the supporting intermediate supplies such as food, clothing, and shelter. In essence the planning and provision of all the key inputs to facilitate the development of agro-tourism must be integrated.

In such a system there is a strong tendency to promote variety as each participating household, firm, and village brings its own distinct advantage, that is, differentiated product, to the market for services and products. Yet all are linked partly by the integration of services and by a coordinated approach to resource use and research and development which the agro-tourism plant facilitates. Further, all are serviced by the same information system, with each participant playing up their strengths and differences and learning from others in order to improve the level and quality of the product and service brought to the market. Each puts irresistible pressure on the other to improve its operation.

Since the entire system is linked across units and functions, this process is ultimately creating an industrial system that is driven by local creativity and hence local intellectual property, and that promotes economies of scope. It will also create a situation where the creative tourism industry will help to develop and to support other industries in a mutually reinforcing process. For example, related industries may require similar set of skills. Each of the industries in such a situation can help to develop the pool of labour skills through training and experience gained on the job and each can benefit from the enhanced factor conditions resulting in part from the presence of the other related firms. This technical clustering needs to be supported by institutional clustering.

Institutional clustering

One of the primary features of an agro-tourism system is the emergence of local-area institutional collaboration and wide-area collaboration in planning, research and extension, cultural interaction and the diffusion of information, finance, and marketing. When one unit needs financing, it increasingly tends to obtain this through the collective initiatives of the financial institutions in the cluster. The same is true for the cultural creation and research needed to upgrade local flora and fauna, and the extension process that diffuses information among households and firms.

Increasingly, in Tobago for example, the sale of tourism is depending on collaborative local-area marketing activities such as Fisherman's Day and on collaborative wide-area marketing activities such as the Tobago Heritage Festival. Similarly, the local and island-wide information networks are pivotal to the spread of information about the tastes and preferences of tourists and the supply options. A limitation is that in the Caribbean such local and wide-area collaboration is still fledgling even though it is growing.

This institutional clustering creates a form of industrial self-government by producers of the goods and services of the industry. They will set their own rules, standards, seek markets, stabilize markets and promote their own type of management. Which can also include the promotion of conservation and protection of the environment. This type of inter-firm coordination in Tobago's tourism sector will affect the long run dynamics of the sector. In essence this clustering promotes both cooperation and competition which is needed for the long run vitality of the sector.

Collective management

Perhaps the most distinctive feature of an agro-tourism system is the collective management of local and wide-area demand to ensure steady development of competitive capacity by the constituent units. As local agro-tourism capacity is added to the system in the village or the island, it is necessary to ensure the growth of demand to utilize the capacity. This will occur primarily by investment in new capacity, in new institutions of participation and trade, and in supporting infrastructure. Similarly, when confronted with new demand conditions, there is need to ensure that creative adjustments take place.

Left to itself, the market will send private participants the wrong signals about the direction in which investment should move in response to changing market conditions and changing effective demand. Similarly, the market will not ensure that the public interest is adequately served with respect to the conditions of work, education, public infrastructure, land-use, environmental protection, and the like.

As indicated in the Tobago Development Plan (PRDI 1998), a basic characteristic of an agro-tourism system is the collaborative management of variations of effective demand through government and private sector collaboration. The institutions of collaborative decision-making must become highly efficient and must have the financial and political capacity to do the following:

- Ensure the creation of an elaborate and adequate system of infrastructure and education
- Promote the development of efficient marketing and distributive systems
- Ensure the appropriate location of activity
- Protect the environment
- Ensure that the private sector becomes increasingly efficient and that total sales and competitiveness grow together in a way that achieves this goal.

Government must therefore pursue policies that are carefully designed and properly targeted. Taxes must be incentive-oriented and must promote investment at an appropriate rate. So too must interest rates and even more importantly, financial incentives to stimulate creativity and worker efficiency. For these reasons, two of the major elements of an agro-tourism system are the local-area management units and the wide-area management units. The local-area management must correspond to strengthened and participatory community government with a participatory structure that accommodates business, NGOs, and all functioning social and community groups. The wide-area management unit is akin to a higher level of government.

For societies like Tobago only strong local and higher level government can facilitate gaining of both the information and the resources, as well as the control of public policy, needed for these purposes. A system that is emerging in this way will increase the capacity of local policy-makers to support or influence the development of local technology and to accumulate local competitive capacity. This is because the system responds to changes in market conditions and effective demand generally by changing supply.

CONCLUSION

The key to the future prosperity of Tobago is largely based on the effective management of its natural resources and environment. In general, the resources of the island offer good potential for economic development through linkages with tourism. Within this context tourism in Tobago needs to adapt for two main reasons. Firstly, the market is

changing as the demand for international tourists continue to evolve; this requires a continuous response in product design and service quality. Secondly, whatever the evolution of demand, Tobago may be unable even to supply in the future what it supplied in the past. Therefore the need for a coherent new strategy for sustainable development of tourism is a high priority. Since sustainability does not imply indefinite repetition, perpetual innovation is required in order to maintain a competitive position in a changing global tourism market.

Key elements of this new strategy must include the creative use and shaping of the market and a strategic focus that means the targeting of strategic sectors to maximize industrial growth. It means moving into new sectors a step ahead of the competition. The idea of moving into a sector does not simply mean producing a product but developing an organizational and strategic superiority amongst a group of firms. Strategic sectors are those where an international competitive advantage can be secured by gaining organizational superiority. This is the approach which must inform the agro-tourism strategy.

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LINKING TOURISM AND AGRICULTURE: INNOVATIVE INFORMATION TECHNOLOGY SOLUTIONS

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INTRODUCTION

Nations, regions and communities around the world have adopted economic development plans that revolve, to varying degrees, around the tourism industry. In addition to the direct income and employment benefits associated with this rapidly expanding industry there is the hope that tourist expenditure will 'trickle down' to stimulate other sectors of the economy. Agriculture is often held up to be a sector that has much to gain from tourism development – with tourist-driven demand for a greater variety and higher quality of food encouraging farmers both to increase and diversify production. In many regions farms, and the rural lifestyle they sustain, become an integral part of the broader tourism product.

While there are examples, particularly from the developed world, of successful agro-tourism and growing agriculture-tourism linkages, much of the evidence from the developing world is less positive. Numerous studies note the failure of inter-sectoral linkages to develop and, in some cases commentators note that tourism can actually damage local agriculture (Bélisle 1984a, 1984b). For example, tourism may compete with agriculture for scarce land and labour resources, and also degrade the socio-cultural and environmental fabric of rural societies. In this paper we provide some examples of how information technology (IT) may enable the development of improved linkages between tourism and the agriculture sector and create a platform for more sustainable forms of development.

TOURISM AND AGRICULTURE – A REVIEW

Despite the vital importance of tourism and agriculture to many communities and regions there is a notable shortage of studies examining the links between the two sectors (Tefler and Wall 1996). The impact of tourism on agriculture is widely disputed. Government planners and policy-makers often tend to emphasize the potential positive impacts of tourism on agriculture, particularly the creation of new markets for agricultural products. There is, however, a long tradition of studies that have shown that the negative effects often outweigh the positive (Vincent 1978; Patullo 1996). In the following review we summarize tourism's relations with the agriculture sector, looking at 'the good, the bad and the ugly' sides of the relationship.

The Good

Some of the positive outcomes of the links between tourism and agriculture that have been highlighted in the literature include:

- Stimulation of new agricultural development (Bélisle 1984b; Cox et al. 1994; Tefler and Wall 1996).
- Increased profitability of agricultural production.
- Creation of new market opportunities.
- The provision of increased or supplementary income for farmers (Stott 1980; Hermans 1981).

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- An important source of economic diversification for small farmers (O'Connor 1996; Oppermann 1997).
- Support of family farms and wider rural community structures (Butler 1990; Clarke 1999).
- Increases in local employment, maintenance of rural landscapes, maintenance of local traditions and sense of place (ETB 1991).
- If used effectively local produce can provide a unique (and potentially cost effective) competitive advantage for hotels and restaurants (Midmore et al. 1996).

The Bad

The most commonly cited negative impacts include:

- Competition for land resources.
- Inflated land values (Bélisle 1984b).
- Competition for labour resources (FAO/ECE 1982; Parsons 1985; Wilkinson 1989; O'Ferral 1991).
- Increased imports of food and foreign exchange leakages (Bélisle 1983; Taylor et al. 1991; Momsen 1996).
- Increased local consumption of imported foods through the 'demonstration' effect (Gomes 1993).
- Inflated food prices (Bélisle and Hoy 1980; Bélisle 1984).
- Changes in cropping patterns.
- Decline in agricultural production (Rodenburg 1980; McElroy and Albuquerque 1990).
- Deterioration of the natural resource base (West and Brechin 1991).
- The inequitable distribution of tourism benefits (Freitag 1996; Bookbinder et al. 1998).
- A loss of local control and the social fabric of community life with tourism altering family structures, the gender-based division of labour and local production patterns.
- The larger, chain-based operations that dominate accommodation in many nations tend to have few linkages with local agricultural producers than their smaller locally owned counterparts.
- The rapidly growing 'all-inclusive' and cruise sectors often exhibit a limited ability to generate downstream benefits (Patullo 1996; Poon 1998; Ross 1999; Wilkinson 1999).
- Migration to tourist areas can place pressure on local land and other resources, concomitantly those areas that lose population may not have sufficient human resources to carry on with traditional rural activities (Torres 1996).
- As a resort progresses through the development cycle tourists become more intent on minimizing costs and consuming familiar foods (Miller 1985). The fast food outlets that often follow emphasize consistency of ingredients and are very cost sensitive – factors that may reduce purchase of local goods.
- Environmental degradation associated with tourism development can impact negatively upon agricultural use of resources. Loss of biodiversity, soil degradation, water availability and sanitation problems are key concerns associated with tourism development.

The Ugly

On occasion the negative impacts outlined above can spill over into marked tension between tourism and agriculture. International tourism expansion can marginalize indigenous people and rural dwellers. Mulligan (1999) shows how tour operators exacerbate problems of local development in Madagascar leading to increased conflicts between stakeholders. In particular the imposition of notions of private property can create land-related tensions. While examples of extreme conflict between tourism and agriculture are limited there is no doubt that tensions often lie just below the surface. Some of the most severe conflicts often surround the establishment of parks and reserves and the impacts these may have on local resource use.

IMPROVING THE RELATIONSHIP

The literature points to a number of factors that limit the ability to link tourism and agriculture more effectively:

- A lack of direct community/farmer participation in the planning and development process.
- Difficulties in communication and understanding between stakeholders.
- Problems in accessing the markets needs.
- Educational limitations and inadequate training opportunities.
- A lack of infrastructural support (Midmore et al.1996; Drumm 1998).
- Unless residents receive tangible benefits from tourism and can exert some control over its development they may not support the industry – either covertly or overtly (Johnson et al. 1994; Jenkins and Prin 1997).

Campbell (1999) points to the fact that the limited benefits flowing to the community of Ostional in Costa Rica from tourism will remain so unless formalized planning and intervention take place – she argues for local control so that communities can have a vested interest in safeguarding wildlife habitats. Fagence (1998) in turn argues for planning principles that facilitate local control and expression and notes that this can only be achieved by listening to the needs of communities. Koch (1997) notes that tourism can only be used as a tool to reconstruct the rural economy if serious efforts are made to address obstacles that inhibit genuine community participation in these ventures – the importance of utilizing local knowledge in the management of parks and local areas is particularly vital.

Participatory approaches have much to offer the policy-making process. Used well, participatory approaches can generate important and often surprising insights contributing to policies that better serve the needs of local residents and communities (Zazueta 1995; Redclift 1995). More fundamentally, they can strengthen the understanding of those in authority and begin to change attitudes and agendas.

But the success of linkage attempts depends on a number of other factors Pattullo (1996) makes the important point that in the Caribbean context it is the traditional structure of the agricultural sectors that also makes linkages to tourism difficult to achieve. The mono-cultural, export focus of many islands (with a particular emphasis on bananas) has more to do with limited linkages than either tourist tastes or limited interest on the part of hotel purchasing staff.

There are examples where the government can be a force in strengthening linkage structures. Patullo (1996) provides examples from a project in Nevis, started in 1991, where the local growers' association, livestock farmers cooperative and Daly Farm (poultry) are trading with a 200-room Four Seasons resort – set up under the guidance

of the Caribbean Agricultural Research and Development Institute. In St. Lucia (1994) the St. Lucia Hotel Association and the Ministry of Agriculture launched an 'adopt' a farmer pilot programme with two of the all-inclusives on the island (Sandals and Club St. Lucia).

Midmore et al. (1996) note some of the more common approaches adopted in attempts to improve linkages between the two sectors:

- Product and service directories (public libraries etc.).
- Trade event promoters need to study how they can improve intra-industry linkages.
- Training courses are needed.
- Development of new agricultural products to meet shifting demand.
- The opportunities for collaboration between local communities and the private sector need to be identified (Olsen 1997; Drumm 1998).
- There is a need for a closer liaison between communities and farmers seeking to protect the resource base and cultural way of life and hotel managers who are trying to stress environmentally concerned marketing strategies.
- For sustainable development to occur social, environmental and economic factors have to be accommodated simultaneously so all stakeholders can participate and prosper. Marketing initiatives emanating from hotel and recreation industries recognizing the inter-relationship of tourism marketing with mutual sensitivity and ecological responsibility are required.

A ROLE FOR NEW TECHNOLOGIES?

The main potential benefit of information technology (IT) is its ability to enable not only better informed decision-making but also organizational change and improved working procedures (Horejs 1996). In particular IT can help stakeholders better understand the needs and issues facing each other and also facilitate networking between the communities of businesses, households and individuals that comprise tourist products (Carney and van Rooyen 1996).

We now look at two IT based approaches that may assist in strengthening the relationship between tourism and agriculture: (i) GIS as a tool to enhance stakeholder participation in the planning and conflict management process and (ii) the Internet and web-raising strategies as tools that can strengthen linkages between tourism and the agriculture sector while improving market access.

GIS and decision-support systems

In the past two decades increased attention has been paid in the tourism planning literature to the importance of facilitating community participation and stakeholder interaction in the overall management of shared resources. It is argued that unless residents are empowered to participate in the decision-making process, tourism development will be unable to translate community values into sustainable directives (Milne 1998).

Geographic Information Systems (GIS) technology offers a unique tool to not only store and analyse complex information collected during participatory exercises, but to also present it back to the community in visualized form. This aims to broaden the understanding between the different stakeholders and create a basis for future planning. There is no universally existing definition of GIS in the literature. In operational terms GIS is a decision-support system that is capable of storing a great deal of information that can subsequently be analysed and displayed in

multiple layers of spatially referenced data. Maguire (1991) suggests that GIS revolves around three elements: the cartographic display of complex information; a sophisticated database system; and a set of procedures and tools fostering spatial analysis and decision-making.

The power of GIS lies in its ability to carry out combined spatial and attribute queries across various layers and to present the results of this operation in an easily comprehensible visual manner. It is necessary to see GIS technology in the context of expanding rather than restricting the possibility to represent information. In this case GIS becomes rather a means in participation and supports a better understanding process between a participatory interview to identify perceptions of multi-stakeholders.

The application of GIS to tourism has generally been at two levels: (i) resort planning and optimization of location, and (ii) trip generation/mapping and the analysis of tourist flows (McAdam 1999; van der Knaap 1999). There has been relatively limited use of the technology in a participatory planning sense.

In recent years there has been a growing interest in Public Participation GIS (PPGIS or GIS/2). This represents a direct outgrowth of research on the societal effects of the technology and seeks to develop a GIS that will be adaptable for input from people and communities (Harris et al. 1996). Obermeyer (1998) suggests a 'community-integrated GIS' as an opportunity to broaden the use of digital data handling technologies, with the objective of increasing the number and diversity of people participating in spatial decision-making. From a tourism perspective Bahaire and Elliott-White (1999) show that the primary goals of participatory GIS are:

- enhancement of community/development planner interaction
- integration of local knowledge with exogenous technical expertise
- genuine community access to, and use of, advanced technology
- education of expert planners about the importance of public involvement.

We now present a case study in which GIS is used not only as a tool to store, analyse, and display data, but also as a mechanism to facilitate participation processes and broaden levels of understanding between various stakeholders.

The Golden Bay case

Members of the Tourism Research Institute are currently conducting a study of the role that tourism plays in the economy of the Golden Bay region of Nelson, New Zealand. One aspect of our work is the analysis of potential conflicts over the use of common pool resources, and an attempt to provide information that may be of use in resolving existing and potential stakeholder conflicts. The research, supported in part by Tourism Nelson, is entitled: *Improving the Performance of Tourism in Golden Bay, Nelson*.

The waters of Golden Bay are a particularly important resource for the tourism industry. The beaches provide the focal point for both international and domestic eco-tourism and are an important and powerful 'brand' for the region. The waters are important swimming, diving, kayaking, boating and recreational fishing areas for visitors. They also represent an important aesthetic element of the broader tourism product – with, for example, many accommodation operators offering 'beachfront access' and 'water views. The waters of the bay are also of great significance to local Maori as traditional fishing grounds. A burgeoning aquaculture industry is also keenly interested in the Bay and wants to expand operations. Proposed and existing aquaculture development includes: scallop dredging, an oyster fishery, cockle harvesting, and the farming of green-lipped mussels.

There is considerable debate and conflict over attempts to expand aquaculture in the Bay. Concerns include: the potential for the alteration of coastal processes, the disturbance of benthic flora and fauna, the alteration of bird and fish habitats, the introduction of contaminants and invasive species, the disturbance of sediment. There are also numerous potential site-specific impacts – many of which concern the tourism industry. Tourism operators fear there will be significant negative impacts on their businesses if aquaculture moves closer to shore and/or if aquaculture activities increase in number. The impacts of most importance to tourism will be visual and aesthetic (infrastructure etc.), and boat movements and noises (particularly at night).

It is hard to know what the direct impact on tourist perceptions of Golden Bay will be and how, in turn, this will influence word of mouth recommendations and arrival numbers. It should be noted, however, that a shift in the type of visitor coming to Golden Bay appears to be occurring – with the domestic summer holiday visitor becoming less dominant and increasing numbers of domestic and overseas visitors looking for 'escape based' travel experiences. The typical visitor to Golden Bay is increasingly aware of the environment and their relationship to it. They view beaches as the key element of the holiday experience and as such may well be negatively impacted by future aquaculture development. It is also possible that environmentally aware visitors may be disturbed by the broader ecological impacts often associated with aquaculture activities.

If tourist numbers fall, or if higher spending, natural experience, seekers decline in number as a result of increased aquaculture it is clear that it will not be just tourism businesses that will suffer. The tourism industry generates considerable income and employment for the region – money that helps support other sectors of the economy.

Our research into resource conflict issues has used the following approach:

- in depth interviews with stakeholders, using GIS as a tool to gather information alongside traditional participatory methods
- building other relevant secondary information into the spatial database
- query the database to see where current hotspots exist and where future conflict may emerge
- disseminate the information through meetings and the internet
- develop the GIS into an ongoing decision support mechanism for the region that will show the flows of visitors, where they spend money, conflicting resource uses, future development plans etc.

We have interviewed the managers and owners of over 60 small tourism (and related) businesses in the Nelson area during the past year. This work has provided useful insights into the issues facing small operators in the region (Ateljevic and Milne 1999). This has been supplemented with interviews with the aquaculture industry and other sectors such as farming and mining. We have also conducted a large-scale survey of visitor characteristics with over 1000 domestic and international travelers being surveyed or interviewed (Ateljevic et al. 1999). In addition we have been conducting community-based research (150 households) and interviews with government. This allows us to gain an understanding of different stakeholder perspectives (Hasse and Milne 1999).

The principle idea is to use GIS to store, manage, analyse and display the spatial information collected in the participatory research and to present it back to the community and other participants. The spatial information will be analysed in the GIS through various queries, which will reveal the different views of stakeholders on common resources and identify common interest, as well as opposite views. A central element of PAGIS is the ability to present the collected information back to the community in visualized form, which enables an interactive approach to local development. It can empower people or communities and give them a stake in the process of planning to

determine their future. This will then provide a basis for further decision making and planning in a specific locality. Through this process people or communities can have greater input into planning through having their views acknowledged by outside developers and planners.

Capturing and encoding local knowledge which is often aspatial and qualitative in nature presents a significant challenge. Local knowledge is mostly fuzzy and does not conform to spatial paradigms of point, line and polygon. Incorporating GIS as an instrument to manage the complexity of information on people's perceptions of place, issues and incorporating their values, represents an important move forward in tourism planning in the region. Our next step is to move relevant GIS material onto the Internet; this will enhance links between different stakeholders (Hanna 1999) and provide a valuable tool through which to disseminate information (ESRI 1999). We also plan to use a web-raising process (see below) in an attempt to bring the different sides in the debate together to follow common themes and interests.

Sustainable tourism development revolves around the need to create a product that will not alienate local people through cultural insensitivity, limited economic returns or adverse environmental impacts. Our research has shown that tourism already plays an important role in the economy of Golden Bay. If its growth is to be sustained, and its benefits for the region maximized, it is essential that future use of its most valuable resource (the beaches and waters of Golden Bay) be planned carefully. It is our hope that mutually acceptable uses of the common pool resources of the region can be found and that the use of GIS will go some way toward showing the importance of factoring tourism and a range of other factors into the decision making process.

The Internet and Web-raising

Christ (1998) notes the importance of facilitating private sector involvement in local community tourism development. The private sector can help to carry out successful capacity building within communities, with large companies in particular having the ability to generate considerable benefits for local agricultural producers. In this section we present an Internet based strategy that may effectively link the profit motive of the private sector with the broader developmental objectives of linking tourism and agriculture. We also show that use of the internet and 'web-raising' techniques can create more sustainable forms of development by reducing provider isolation, utilizing resources more effectively and allowing rural tourism to connect with international flows of tourists (Clarke 1999). Most importantly individual providers can move beyond the stand-alone marketing that characterizes rural tourism products (Lane 1994) and toward collaborative approaches.

Electronic commerce (e-commerce) and the Internet have had a significant impact on the travel industry – perhaps more so than on any other sector. Companies of all sizes are rushing to gain a presence on the Internet. Governments are implementing policy frameworks to foster IT adoption by the industry, and tourists everywhere are beginning to see the potential for new technologies to improve their ability to make travel plans.

The literature on tourism and the Internet focuses on a number of ways in which the industry is benefiting from the adoption and development of e-commerce :

- knowledge management in tourism
- changing consumer behaviour through information technology
- new product development
- disintermediation
- labour market impacts

- the empowerment of small and medium enterprises through IT.

While there is plenty of 'hype' about what IT can do for various elements of the tourism industry, it is still not easy to find comprehensive accounts and reasoned analyses of the key issues associated with the adoption of new information technologies. In particular there are gaps in our knowledge about how the Internet and tourism will mix in less developed settings where telecommunications infrastructure and human capital bases are limited. At the same time we know relatively little about how e-commerce may alter the ability of community based tourism products and networks of small firms to reach the elusive tourist and shape visitor behaviour to better meet local needs. There has also been limited attention paid to the degree to which the Internet may allow small businesses to coordinate their activities or link in with larger concerns.

E-commerce and the Internet are in many ways ideal for communities of households, farms and small businesses that want to link more effectively to the global tourism industry. For the first time there is an easy way to build a locally owned media presence, capable of attracting and servicing tourists and of forming the basis of a coordinated tourism product. The Internet has several key elements that make it an important alternative to traditional marketing approaches for agro-tourism development:

- Web sites are flexible, the images and text they present can be changed easily and quickly.
- Internet sites provide an international presence.
- The Internet makes customer relations easier and more individualized.
- The net decentralizes and democratizes access to the customer.
- The customer can make better decisions through more precise product information.
- There are cost savings in distribution, service, marketing and promotion. Revenue prospects grow correspondingly.
- The number of Internet users is growing rapidly and the demographic profile of users (wealthy, well educated) is of interest to groups that wish to attract free independent well-educated travelers.
- Web sites have the potential to reflect local aspirations more effectively than many traditional marketing approaches.
- The process of developing a community web site may be an effective way to foster cooperation and networking between different players in the local tourism scene.

Clearly the Internet has potential, but how can that potential be turned into a reality when many of the communities of people and firms who wish to turn to tourism have limited IT skills, and no money to purchase the expertise? As a way to get around these problems we have incorporated the concept of 'web-raising' into several projects we have been conducting in New Zealand with hotels (Cophorne, Masteron; Novotel, Rotorua) museums (Katherine Mansfield's Birthplace, Wellington Museum of City and Sea) and communities (Hokianga, Collingwood). Web-raising is the digital equivalent to a barn-raising – a community working together to create a collective asset. A web-raising is a community event where neighbours share experience and skills to help empower one another in the creation of web documents. We learned about this concept from the Los Angeles Community Network (LACN, 1998) and decided to adapt the idea to meet our own needs. One of the most important features of this approach is that while an effective and unique web site is developed, the building process allows different groups to learn more about each other (in the same way that barn-raising helped to forge important notions of communal trust and reciprocity).

Although we have applied this model in different settings and contexts within New Zealand there are generic features that can be relayed here:

Agro-tourism – a sustainable approach to economic growth

Phase one:

- Establish contact with hotel/attraction/community
- Develop a memorandum of understanding.

Phase two:

- Demonstrate possibilities
- Build 'Pride in Place'
- Develop joint plan

Phase two consists of holding public meetings in a communal hall to which every stakeholder is invited. In the case of a large hotel the meetings will initially be held on site. Local business owners and local notables are targeted alongside 'average' community members. In the same way hotel and museum based web-raising focuses on a range of employees in the hotel and also brings in surrounding businesses.

The main issue is to raise awareness of what we are doing. We hoped to be able to show the community/hotel/museum that we were not outsiders trying to impose a solution but genuinely trying to address their concerns. The group meeting also encourages actual and potential operators to meet and consult informally, and to motivate them by showing the strength of public support for networking.

This phase of the research is aimed at getting joint agreement to a schedule for the work and to have locally respected persons affirm in public that they have endorsed the plan. The next step is to move the group towards some sort of action agenda, so that they can make a start on building an Internet site that will serve their needs. We start by facilitating a group meeting, challenging participants to define what was good about their region/hotel etc. and what things would be of interest to a visitor. After an hour or so there is usually some general agreement, to some people's surprise, that there is actually a great deal of potential for tourism and that the opportunity was there if they choose to take it. This process gradually caused a change in attitude of the operators who realized that their own best interests would be served by acting jointly and that no one operator could expect to succeed in isolation.

It was made clear to the community/hotel etc. that the success of the site depends on them providing the text and pictures. This is the only way they can guarantee that the site will be an authentic reflection of their lifestyle and what they have to offer as a tourist service. To encourage this we arrange a group session where people are challenged to come up with things that can be featured on the web site, and then break into small groups to write down the ideas and produce a page plan. The final step is to get agreement on who will take responsibility for making sure the material was gathered and forwarded to the web programmers.

By the end of the session we have a viable page plan for an Internet site which is unique to the region/product and which will be written by the local people.

Phase three:

- Prototype website
- Transfer skills
- Iterative development
- Transfer ownership.

In Phase three the methodology calls for the developers to build the new tourism site and take it back to the community for approval and comment. After any amendments the site is implemented and the site goes into production. The idea is that as the site gets used, visitors attract more and more businesses in a 'snowball' effect.

The follow on from Phase two can be disappointing. Although the community or hotel may be enthusiastic and people promise lots of relevant information, inevitably there will be difficulties in getting content (even then only after much prodding). In response to these problems we build a prototype web site with what little content has been obtained. This usually consists of the pages sent by the community plus a number of photographs taken by the research team. We are then able to create an Internet site based on the agreed plan, creating pages with the headings but without the content, indicating what the site will look like when built. In addition we are able to create a picture gallery from our own photographs. For the second visit we demonstrate the new community web site and show what has been done and what more was possible.

Members of the research team bring with them portable computers, tape recorders and a scanner. Community members are encouraged to bring themselves and relevant photos, documents, genealogies, cultural artifacts and other icons of their lifestyle/workplace. The turnout is high, and many items are produced for inclusion on the site. The team scans in the objects and images, and interviews the people, either recording their stories on tape or typing the words directly into a laptop. In this way we gather an immense amount of material in a very short time. The result is a 'self image' of what the group believes defines their collective identity, and how they want the rest of the world to see them. We leave behind an enthusiastic community of businesses carrying with us a lot of information and prepared to build the first instance of the real site (Mason and Milne 2000). Once a hotel site is completed we then move on to include members of the surrounding economy. Small farmers, wine growers and tourist products are featured – this in effect creates a web-portal which can benefit both the local small firms (access to the market) and the hotel (increased reasons for people to hit the site, increased linkage and understanding in the supply chain).

Our research shows that web-raising can help to accentuate the local and the authentic, at the regional scale it can assist in the development of networks and coordination. At the global scale web-raising assists the local in linking into the international travel distribution network.

Benefits go beyond simply stimulating local linkages:

- A marketing tool is produced for the hotel, attraction and broader community.
- A portal to local product is created.
- A cost-effective way for farmers to link into the tourism system (as products or suppliers) is created.
- There is the ability to develop 'virtual marketplaces' where suppliers and producers can get effective updates on supply and demand issues.
- There are broader networking and community development benefits.
- Within hotels and communities the web-raising process can increase levels of trust and reciprocity. This has benefits for community tourism product coherence and for human resource management and internal marketing within hotels.

These are early days – we need to test this model in different situations and also develop effective mechanisms and benchmarks through which to evaluate the performance of the site.

The lesson of this research is that while implementing e-commerce may be relatively easy technically, building it into a viable community/hotel tourism site is difficult. The skills of the average programmer can easily outpace the ability of the community to support the product. In order to be authentic, site content can only come from the subjects. The support and interest of the general community is vital, but the site can only flourish if the business operators are not just involved, but harnessed as the driving force for the e-commerce initiative. The experience of e-commerce so far has been largely confined to standard western-style business operations. But as the technology is extended into non-traditional applications, and as the technology itself changes, new methodologies will have to be constantly developed.

CONCLUSIONS AND KEY ISSUES

Food accounts for one third of tourist expenditures in the Caribbean and in many other parts of the world. Any reliance on imported food represents both a "lost opportunity to local agriculture" (Bélisle 1983) and a massive loss for the region of net benefits derived. Despite the weak linkages that now characterize the relationship between the tourism and agriculture sectors in many regions there is significant potential to increase the share of locally produced agricultural products supplied to the tourism industry, and thus to reduce the need for imported foods. There is also great potential to take working agriculture and rural environments and add value to them by linking more effectively into new and existing tourism products.

Enhancing the linkages between tourism and agriculture represents an important potential mechanism to stimulate local agriculture and to improve the distribution of tourism benefits to rural people. By converting farmers and other rural participants into economic stakeholders and beneficiaries of the tourism industry, the incentive to abandon farming and move to the city will be significantly reduced, at the same time rural landscapes and the heritage benefits attached to them may continue to survive.

Perhaps most importantly we must remember that whether we are discussing GIS, the Internet or e-commerce we must always remember the IT is simply an enabling force. It can only work to people's collective benefit if trust, reciprocity and the will to succeed exist. It also requires government or some other grouping to provide the right types of support and infrastructure to facilitate the processes outlined in this paper.

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- Museum of City and Sea www.bondstore.org.nz
- Toasting Tequila: Agaves, Agriculture and Tourism <http://www.escapeartist.com/efan/tequila.htm>
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AGRO-TOURISM ISSUES AND CONTEXT: SOME THOUGHTS ON INVESTING IN AN AGRO-TOURISM STRATEGY

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INTRODUCTION

Both the agricultural and tourism sectors are very important contributors to the economic and social development of the countries of the Caribbean region. While the agricultural sector has played a more historical role from this perspective, the tourism sector has become significantly important as the region develops its attributes in the promotion of services.

In this process however, the two sectors are mutually dependent, the agricultural sector especially as the beneficiary of expanded domestic and international markets that the tourism sector provides for agricultural output. It is, therefore, in this context that relevant strategies have to be developed to more effectively link the agricultural and tourism sectors of the region to maximize the overall common objectives of and benefits from the two sectors, with respect to social and economic development.

AGRO-TOURISM: DIMENSION OF CONCEPT

Historically, several approaches have been taken through private sector initiatives in linking the agricultural and tourism sectors. The agricultural and agriculture-based commodities that the region has traditionally traded, e.g. sugar, rum, cocoa, spices and condiments and bananas, have initially formed the centrepiece of this link. More recently, as the tourism sector has expanded, provision of meats, especially poultry, fish, dairy products, fruits and vegetables have increased in prominence in linking the agricultural and tourism sectors in the region.

In our view, the dimension of agro-tourism relates to the extent to which agricultural goods and services, of local origin, are integrated into national and regional tourism sectors to the mutual benefit of the respective sectors. From this perspective, the following distinctions are considered relevant:

Agricultural goods:

- direct food consumption (fresh and processed form)
- beautification (flowers and foliage, craft and art)
- novelty (souvenirs, gifts).

Agricultural services:

- recreation (specialist farms, sites of agricultural interest and associated services).

The developments in respects of the 'goods' element have been undertaken in response to opportunities and essentially in an uncoordinated manner. While there have been and continue to be benefits derived from such interventions, the determination of impact has been limited by unavailability of reliable data. The 'services' element represents an area of opportunity for further development.

CHARACTERISTICS OF THE TOURISM SECTOR

The tourism sector is a service-related sector catering to the requirements of a very diverse ethnic, cultural, social clientele. These are very important factors for consideration in the sector which is dependent on progressively increasing numbers of visitors seeking good service. With respect to the food and beverage service element of the tourism sector, there are several areas with which service providers have to contend and which directly impact on the extent to which the local agricultural sector can benefit from supplying goods to the tourism sector. The particular concerns of food and beverage providers and caterers to cruise ships in respect of local produce include the following:

- The quality of local produce must be consistently high - as the region progressively expands its tourism product, the domestic market of which the tourism sector is a part, becomes international in character and consequently must meet the international standards for quality and service.
- That supplies of local produce are consistent and reliable.
- That prices of local produce are competitive with imported substitutes and are reasonably predictable.
- That units of local foods are available in the controlled portion sizes and form which service providers require as they contribute to consistency, convenience and efficiency with which the particular food service can be provided.
- That seasonality and sources of local produce are known to service providers in order to effectively manage the purchasing function.
- Preparation and presentation of local foods should be appetizing and appeal to the gastronomic requirements/demands of end users.

These are some of the challenges faced by the domestic agriculture and agro-processing sector (especially for meats, dairy products and juices), the latter being successful in establishing the necessary measures e.g. meeting the basic Hazard Analysis and Critical Control Points and International Standards Organization standards to be competitive in domestic and other markets.

Within the tourism sector, there is diversity in the size of individual service providers that allows for variation in the modality of interface between operators in the agricultural and tourism sectors. Small-scale operations in the tourism sector can more effectively interact with domestic producers on a daily or less frequent basis especially to secure supplies of fresh produce, in comparison with larger establishments which must plan services based on the knowledge that large volumes of a diverse range of products are in stock.

In respect of the 'services' dimension, this is an area of demand in which selected activity has been through the development of areas of traditional agricultural, historical or ecological interest. Opportunities creating such services have, therefore, revolved around the sugar industry (factories of historical significance, Morgan Lewis windmill in Barbados, rum distilleries) and tours of floral gardens and estates cultivating traditional tropical crops.

AGRO-TOURISM: A MARKETING CONCEPT

The regional tourism industry is necessarily an expansion of the domestic market. Visitors to the region, whether long or short stay or cruise ship arrivals, contribute to the local market for goods and services from the agricultural sector. Hotels and restaurants are the primary providers of goods, for direct food consumption, which can be either of local origin, if the market requirements can be met, or from imports.

Within the challenges placed on the agricultural sector by the characteristics of the tourism sector, there are opportunities which either are or can benefit the agricultural sector but have to be more systematically examined, developed and marketed. The marketing of the region's agriculture is, therefore, an essential step in contributing to developing the Region's tourism sector.

Agro-tourism should, therefore, be viewed from the perspective of conceiving and implementing strategies that utilize agricultural assets in ways that support development of the sector and contribute in a significant way towards meeting the relevant needs of the region's tourism sector. In that context, the following factors which are fundamental to the development of a marketing strategy for agricultural products and services, have to be considered:

- Determining the quantity and specific characteristics of the agro-based goods that are required by the various segments of the tourism sector.
- Identifying suppliers (producers and processors) to meet the requirements.
- Assessing the capacity of suppliers to reliably and consistently meet the specific requirements of the market.
- Developing reliable systems for bringing suppliers and purchasers as closely together as possible.
- Creating service-related themes based on traditional tropical agriculture as a product for the tourism sector.
- Developing systems and mechanisms to continuously monitor and evaluate the links that have been developed between the production and utilization entities.

STRATEGIC OPTIONS

In our view, the options that can be pursued in further developing agro-tourism relate to:

- Increasing, in a progressive manner, the benefits that can be derived from supplying agro-based goods to the tourism sector in a manner that permits greater collaboration and cooperation between producers, intermediaries and end users.
- Developing creative products around tropical agriculture themes that appeal to the interests of visitors.
- Ensuring that existing institutions servicing the tourism sector are intimately involved in the processes of identifying opportunities for the agriculture sector to provide goods and services to the tourism sector.

THE DEVELOPMENT APPROACH

Developing options for agro-tourism will have to be characterized by:

- Involvement of the several intermediaries currently operating between the producer in the agricultural sector and the end user in the tourism sector.
- Leadership of private sector interests.
- Support of the public sector.
- Participation of interests in both the agricultural and tourism sectors.

It is our view that in respect of these factors, the initiative for further agro-tourism development will have to be led by the public sector. Without being prescriptive and assuming the role of the participatory processes that should

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guide further development, investment in training, specific product development research, improving market infrastructure and monitoring capacity would represent important areas for initial public sector investment.

Training

The following represent thematic areas to which the several entities involved in agro-tourism related activity can be exposed to enhance capacity, knowledge and sensitivity to the significance of the systems in which they operate.

Producers

Attention to market signals and producing in accordance with market and contractual requirements: what to grow; how to grow; postharvest handling; product preparation and presentation; processing requirements and adherence to international standards; consistency and reliability.

Intermediaries

Business development, contracting arrangements; reliability, trustworthiness and confidence building, information development and transfer mechanisms.

Product users

Use of available products; presentation; promotion; information development and transfer mechanisms.

Product development research

Goods:

Research targeted at product development involving minimum processing and good storage potential.

Services:

Research thematic areas of international importance in agriculture e.g. organic farming, medicinal plants, plants and global warming, aquaculture. Develop products to capitalize on these themes incorporating as far as possible tourism sector requirements in respect of accommodation, foods and beverages.

Marketing Infrastructure:

- i. Accessibility of production areas.
- ii. Upgrading of local market infrastructure to improve product presentation, shelf life and enhance environment in open market systems.

Monitoring:

- i. Developing data management systems to facilitate the flow of information between the various interests in the marketing and development systems.
- ii. Assisting in the dissemination of relevant market data.

The training initiative is considered the initial strategic approach to bring the entities in the agro-tourism system together to obtain views and solicit collaboration and cooperation that would facilitate further development.

The private sector role is envisaged to be mainly in areas related to operationalizing the systems and include investments in:

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- producing crops and processed products
- marketing including purchasing, collecting and delivering
- storing for later use
- preparing products, presenting and promoting these products
- developing new products and services conceptualizing and creating new agriculture-based services.

Implementation of any strategy will be dependent on the level of collaboration and cooperation between the public and private sector interests. Ideally, statutory entities (with representation of both public and private interests) with responsibility for agricultural and tourism sector development should be the initial collaborators on any strategic initiative for further agro-tourism development.

CARIBBEAN DEVELOPMENT BANK (CDB) FINANCING FOR AGRO-TOURISM DEVELOPMENT

Over the period 1970 to 1999, CDB has provided resources totalling approximately US\$100.6 million and US\$54.2 million directly to public and private sector interests in the agricultural and tourism sectors of the region, respectively. Additionally, over the same period, CDB has provided approximately US\$151 million and US\$63 million in support of agricultural and tourism sector development respectively, to a diverse range of intermediaries including national financial institutions and international commercial banks.

In the agricultural sector, these resources have been used to support production, improve marketing infrastructure, establish and develop agro-processing and other activities supportive of agricultural development. In the tourism sector, the resources have been used primarily in establishing accommodation facilities, other tourism-related infrastructure and ancillary services that support the tourism sector.

The benefits of these investments accrue to both sectors. The benefits of investments in projects in the agricultural sector are generally derived from increased output and production efficiencies and distribution in domestic and international markets. In some instances, investment in agricultural infrastructure, e.g. feeder roads intended to improve access for farmers, also allow for visitors in the tourism sector to transit some of the rural and scenic areas. Conversely, tourism-related investments while providing for increased visitor traffic could also provide for the orderly interface between visitors and producers some of whom trade in products of agricultural origin.

In supporting any strategy for continued agro-tourism development in the region, CDB's assistance would necessarily be targeted in areas that include the following:

Public sector intervention

- Assisting in financing both regional and national training programmes in developing the agricultural and tourism sectors through acceptable modalities including workshops, hands-on attachments, familiarization tours with focus on skill, business and product development.
- Supporting small-scale business development through approaches including business incubation especially in respect of product development.
- Targeting research in food and related product development.
- Establishing relevant infrastructure to improve the interface between producers in the agricultural sector and end users.

- Developing national and regional capacity to more effectively monitor and generate relevant data for impact determination between the agricultural and tourism sectors.

Private sector intervention

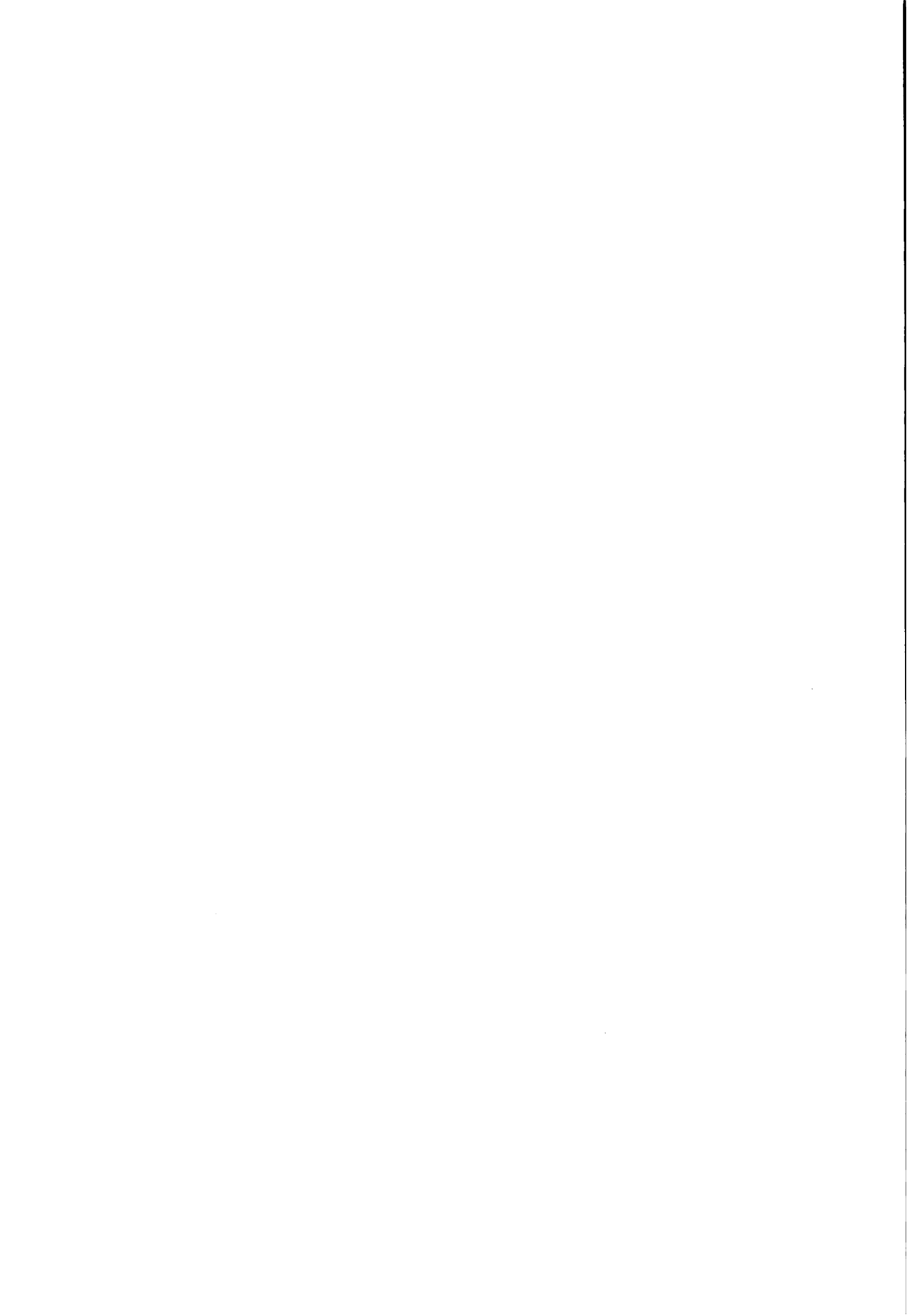
- Increasing indirect lending for private projects in agriculture, agro-processing, marketing and tourism and ancillary services among other activities in the productive sector, through a wider range of intermediaries.
- Supporting the establishment of equity funds as sources of finance for major private sector projects in both the agricultural and tourism sectors.
- Supporting micro-enterprises including those utilizing agro-products for the tourism sector.
- Strengthening services in transferring technologies that enhance efficiency and capacity to produce and manage operations in agriculture and tourism.

CONCLUSION

In concluding, CDB recognizes the importance of both the agricultural and tourism sectors to the economic development of the region. Consequently, apart from its involvement in providing financing for private and public sector activities in support of the respective sectors, CDB looks forward to being more integrally involved and in collaborating with all interests in planning and other activities that lead to implementation of policies and strategies for the further development of the sectors in the region.

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**AGRO-TOURISM:
SETTING THE POLICY FRAMEWORK**



DEVELOPING THE LINKAGE BETWEEN THE TOURISM AND AGRICULTURAL SECTORS

Carla Noel

Tourism and Industrial Development Company of Trinidad & Tobago Ltd.

Some of us may be familiar with the concept of agro-tourism and there is no doubt that it is an industry that can bring greater economic viability to our region. Agro-tourism is not new, however. To date, there is still a large gulf between the two sectors particularly in the local community in which they both co-exist. Is this phenomenon common, and can it be resolved? It is my intention by way of this presentation to explore a policy framework that can create the environment for greater linkages between the agricultural and tourism sectors. Agro-tourism has two dimensions. One can be classified as a forward linkage, meaning that the agricultural sector is part of the destination's tourism appeal. In this context, it is of special interest to visitors and forms part of their itinerary. The other dimension involves a backward linkage whereby the agricultural sector provides the raw material for the food and beverage required by the hospitality industry. Certainly, before there can be any forward linkages we must develop the backward ones, and thus my presentation will expound more on the latter.

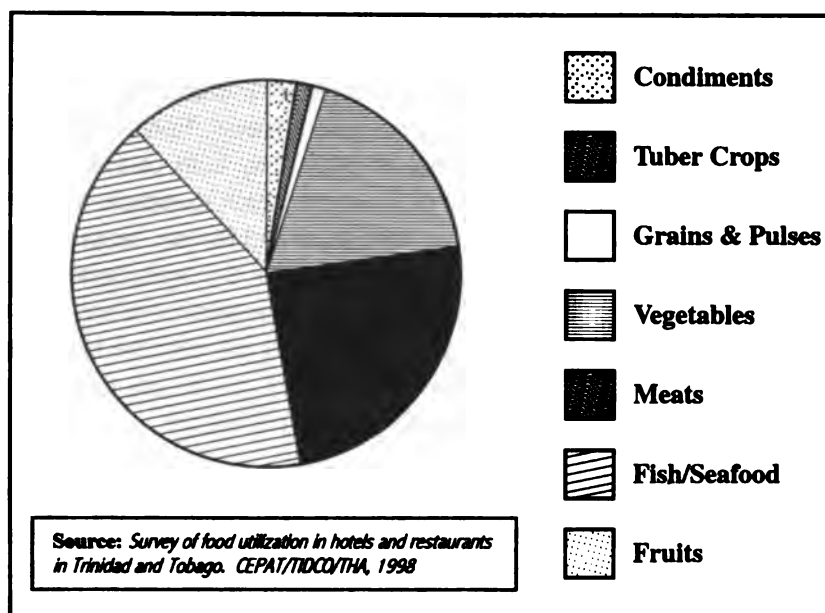
The agricultural sector can provide several food and beverage inputs for the hospitality industry. These range from condiments, root crops, vegetables, grains and pulses, fruits, to poultry, meats and fish. A UWI Continuing Education Programme in Agricultural Technology (CEPAT), Tourism and Industrial Development Company (TIDCO) and Tobago House of Assembly (THA) survey, conducted on food utilization in hotels and restaurants in Trinidad and Tobago, dated 1998, indicated that the entire hotel sector demanded approximately TT\$67 million worth of produce from the agricultural sector in 1997. This figure represents a significant 19% of the Gross Domestic Product of domestic agricultural production for the period under consideration. Therefore, growth in the tourism industry can and will create a formidable impetus for the burgeoning agricultural sector. The results of the survey indicated that fish and seafood account for 40% of all produce utilized, and meats and vegetables represent 25% and 20% respectively. Fruit was a significant 11% of all produce used by the sector during the period. These products can all be produced in sufficient quantities within the local communities for the hospitality sector. However, there is a challenge in developing that linkage between these two sectors.

Inevitably, the non-existence of a prosperous agricultural sector can result in the non-confidence of the consumer in the sector's ability to provide reliable quantities and qualities of agricultural produce. Therefore, the first step towards the creation of a linkage is the collaboration of the sectors' leaders in agreeing to commit to the mutual benefit of both industries. Once there is distrust among the players, there will be a fallout with serious consequences. Hoteliers must commit their buying power to the local community in order to encourage agriculturists to invest in the sector. This confidence will translate into increased prosperity for the agriculture industry. The crucial question for Tobago's agricultural sector is therefore whether it can supply the quantities and qualities of agricultural produce required. If not, what does Tobago need to do to achieve this?

Certainly, there are issues of inconsistency of supply, un-agreeable price differentials and quality challenges. However, these issues can all be addressed with defined practical strategies that will form part of the agro-tourism policy. Moreover, there seems to be a dilemma in the context of the questions of, who should commit first? Is it the hotelier or the farmer? I would like to suggest that it is the hotel and restaurant sector that brings the impetus, therefore it is this sector that has the power to drive the viability of the other sector. However, the hotel and restaurant sector is fair in demanding quality and sufficient quantity of produce. This does not mean that the farmer's responsibility to provide a reliable supply is not required. In fact, reliability is a key component in sustaining

commitment, but there must be a forerunner in the whole scenario.

Table 1 Food consumption demand for hotels/guesthouses in Trinidad and Tobago (1997)



The challenge of providing customers with a reliable supply is resolved through maintenance of an effective education and training strategy. This strategy is focused on several areas including quantity and quality factors, price competitiveness,

packaging, service and delivery. The formalized education systems can provide a basic foundation to educate prospective agriculturists on effective methods. However, training initiatives by means of specialized agricultural institutions must support this endeavour. An important resource for the upgrading of education and training techniques is the provision of information. It is this information that will create an awareness of the prospects in the agricultural sector and lead the way of re-engendering a culture of agricultural activities in the community. The provision of information must also be supported by application of the latest research capabilities to ensure that results are practicable. Consideration must also be given to the target groups, and the most effective messages and media used in the dissemination of this information.

Overall, there must be a policy framework within which the agro-tourism industry is created and develops. Formulation of policy is the course of action that ought to be taken in order to bring about a change. It is an on-going process, however I will attempt to identify a package of agro-tourism policies that can develop the linkage between the agriculture and tourism sectors.

The foundation for establishing a policy framework is a detailed investigation of the current profiles of each sector. This involves identification of the present and future needs of the tourism and hospitality industry for the various kinds and quantities of agricultural produce. Thereafter, an assessment of the current cultivated crop profiles, planting systems, agriculture land-use inventory and distribution channels should be determined. Thereby, a matching of the demand and supply components will form the basis of specific policy instruments.

Based on secondary research conducted, it is evident, particularly in the Tobago context, that there is an existing demand that is not matched by adequate supply of agricultural produce. In fact, the situation has been described as one in which produce sometimes leaves Tobago, goes to the Central Market in Trinidad, and is purchased by a middleman, who then re-sells the produce to a hotel in Tobago. It is therefore important that we set policies that will

not only address the consistency of supply but also the distribution of this supply.

Another instrumental policy for the burgeoning agricultural sector is the land-use policy. Zoning is an important consideration since agriculture and tourism land-use may come into conflict. Further, agriculture may result in the removal of vegetative types that form the basis of the natural tourism product.

Additionally, policies relating to the application of appropriate technologies that will bring about consistencies in agricultural outputs must be considered. Government has adopted a strategy to supply farmers with a package of incentives to provide tools and techniques for agriculturists. Some of these incentives include discounted machinery, tools, irrigation systems and so on. Systems must be designed to effectively administer these incentives.

There must also be a guiding policy relating to the catchment and provision of an adequate supply of water. Agriculture and tourism industries have high demands for water. Therefore, it is imperative that the required resources be determined and provision be made for adequate distribution.

Another policy instrument that will help the sustainability of an agro-tourism industry is one involving environmental management. In some instances, the by-products of agricultural production, such as chemical wastage, may be in conflict with the provision of a pristine environment for tourism purposes. Thus, there must be some scale of organic agriculture in the agricultural industry. Further, the aspect of ornamental agriculture should also be considered as a viable enterprise for agro-tourism. Moreover, there are sustainable forms of agro-tourism such as beekeeping which can also form part of the policy framework. This activity is environmentally friendly and can provide a unique insight into the operation of nature. Thus interactive tours can be developed for the enjoyment of all visitors.

In summary, an agro-tourism policy framework should include education and training, land-use, technological and environmental policies. These must be directed at eradicating the major challenges of developing linkages between the tourism and agricultural sectors. It is my sincere hope that Tobago develops its agricultural industry to embrace the tremendous demands of the hotel and restaurant industry.

ACKNOWLEDGEMENTS

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TOWARDS A REGIONAL POLICY FOR AGRO-TOURISM LINKAGES

Basil G.F. Springer
Systems Caribbean Limited, Barbados

POTENTIAL TOURISM MARKETS

There are over 30 Caribbean countries which are member countries of the Caribbean Tourism Organization with a total of over 1,500 hotels and over 120,000 hotel rooms.

Tourism, for many of these countries, is the leading economic engine and has significant potential for growth. The vision is that this growth will take place in a manner which is consistent with the preservation of the physical environment and the development of a high quality of life for residents of these countries.

The cruise line business also creates opportunities, with Royal Caribbean alone having a capacity equivalent to more than 45 hotels of 400 rooms each and more than 750 restaurants seating 125 each. There are also other members of the Florida Caribbean Cruise Association and Butch Stewart's Y2K cruise line initiative.

THE AGRICULTURAL SECTOR

In many of these countries, agriculture is also an important sector, which has traditionally centred around export commodities such as sugar, bananas, coffee and cocoa. There has been a thrust to diversify the agricultural sector because of: changing international arrangements in the traditional commodities traded; the need for food security; the opportunity to develop exotic agricultural exports; and now to displace food imports for the growing tourist industry.

The increased demand for fresh and value-added food products, stimulated by the growing tourism industry, coupled with other market opportunities, e.g. greater sophistication from local consumers, and the export of exotics, provides an opportunity to create economies of scale of production which present a business proposition to the farming community. In particular, tropical fruits are identified with the Caribbean tourism product. Tourists are interested in rarer fruits and their processed products which are not widely available at home.

The subject of agriculture/tourism linkages in the Caribbean has been repeatedly explored without commensurate action being taken to implement the recommendations made. Consequently, linkages remain generally weak. There are limited cases in the region of countries which have been forced into crash programmes of import substitution to ensure economic survival. Jamaica is the best example.

There are four major benefits of import substitution in the agricultural sector which are particularly attractive to Governments in the region, and should stimulate major support. These are:

- The alleviation of foreign exchange leakage due to the importation of food for tourists.
- Employment generation from greater agricultural activity.
- Foreign exchange earnings from satisfying the enhanced demand for exotic agricultural exports by tourists when they return home.

- The weakening of the justification for the alienation of prime agricultural lands, for alternative economic uses, as a result of the food production expansion thrust.

This has to be balanced against possible higher costs to the consumers of locally and regionally produced goods and hence must be accompanied by a total quality and productivity improvement programme. Where appropriate, exports should be encouraged, to general and ethnic markets, as part of an integrated strategy.

AGRO-TOURISM LINKAGE OPPORTUNITIES

Tourism is characterized in the Caribbean primarily by long stay visitors, whose average length of stay is ten days to two weeks depending on whether they are from North America or Europe, respectively, and cruise passengers who are usually in just for the day. Since cruise passengers have an all-inclusive package they do not consume large amounts of food on the islands. There is another category of tourist, which consists of retirees who may spend up to six months on the islands.

Long stay tourists patronize hotel and independent restaurants. Cruise ships, especially those which homeport in the islands have been targeted as a major market for fresh and value-added food products. There are airline flight kitchen services which have backward linkages to agricultural production. Gift baskets, mainly preserves and condiments, are a relatively new addition to the tourist trade.

The fresh and value-added foods which can be produced in the Caribbean are as follows:

- Fruit (fresh, juice and preserves)
- Vegetables (fresh, partially prepared and frozen)
- Pulses (fresh and frozen)
- Root Crops (fresh, frozen and dried)
- Livestock (fresh and frozen poultry, lamb, eggs, chevron, beef, milk and ice cream)
- Coffee (beans and ground)
- Sugar Cane (fancy molasses and specialty sugars)
- Seafood (fresh and frozen)
- Seasonings (bottled)
- Processed meats (bacon, sausage and ham)
- Spices and other condiments (bottled)

The demand for fresh and value added food products by the tourism industry is varied. Value-added products fall into the following categories: frozen; dried: partially prepared (peeled, sliced and diced); portion controlled; canned and pickled.

The foods that have potential for linkage development, in both the fresh and value-added forms, are:

Restaurants (independent, hotel and cruise ships): Partially prepared foods to save kitchen preparation time e.g. peeled root crops, diced and sliced vegetables and fruits, stir fry pack, stew meats and soup packs, dried crops (instant yam), portion controlled foods and organically produced foods.

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Flight kitchen: Fresh produce and portion controlled (meat cuts, packaged sauces, dressings, preserves, sugar, milk, margarine and juice).

Gift baskets: Serve to introduce preserves, sauces and condiments to foreign markets so that the recipients may become familiar with products and buy them when they become available on the overseas market.

Frozen seafood packs: Seafood with seasoning at air and sea ports.

CONSTRAINTS TO RAPID LINKAGE DEVELOPMENT

Several constraints to agriculture-tourism linkages are readily recognizable:

Production and marketing

- Inconsistent quality
- Unreliable supply volumes and delivery times
- Production and market seasonality
- Sub standard packaging and merchandising.

Economic

- Limited resources
- High production and marketing costs
- Protectionist policies
- Unavailable timely marketing and production information.

Environment

- Sub optimal land use distribution
- Destruction of coral reefs
- Integrated pest management
- Water resource rationalisation.

Management

- Failure to practise the 'Smart Partnership' philosophy
- Lack of co-ordination of the supply chain
- Inadequate human resource development
- Weak institutional framework.

STRATEGY FOR CHANGE

Any effective strategy must be conceived within the context of a vision for the future and must be designed to alleviate or remove the constraints which impede the path to that vision. The vision is 'Sustainable Economic

Development', so as to protect our physical environment and enhance our socio-economic well being now and for posterity.

A sustainable economic development model for small states consists of seven components:

- Global niche-market focus
- Private sector re-orientation
- Human resource development
- Rationalisation of financial instruments
- Adoption of the Smart Partnership philosophy
- Protection of the environment
- Efficient project management.

Global niche-market opportunities abound, which are compatible with our supply potential. Whether it is informatics, exotic agriculture, manufactured goods, financial services or the many forms of tourism, we must invest resources to aggressively access these markets. These markets are free to procure a supply of goods or services from anywhere in the world. We have to persuade them to buy from us. Let us assume the global niche market is a tourism market and the goods are agricultural.

When we do identify niche markets and get them to look in our direction, we have to persuade local suppliers to respond to the challenge to meet their needs. A major investment is needed here to refocus the private sector and develop a new entrepreneurial class, since traditionally our private sector has been import and distribution focused.

Once the private sector orients itself to a global niche-market opportunity, our next challenge is to achieve and sustain growth in each sector. There must be a major investment in high impact training to rapidly develop us to a level of excellence where we are just as good or better than our global competitors. The need for training ranges from executives to support-service personnel level and the type of training straddles the spectrum from cross-cultural communication to computer literacy.

The financial institutions in the Caribbean have developed to meet the needs of the economy of the past and they have served us well. But, as is the case with any strategic focus, one must monitor the changing environment and adapt our strategies to meet the needs of the day. In order to take advantage of these new niche markets which will emerge on the global scene, it is necessary to invest in venture capital, in particular, to facilitate the advent of the new enterprises which will respond to the challenges of the technological age.

The Smart Partnership Philosophy is being promoted internationally. Smart Partnerships relate to win-win relationships between the public and private sector, within the public sector and within the private sector. We must invest in this philosophy if we are to effectively utilize our available resources. The public sector must set policy, while the private sector 'does business'.

If we do not take care of our physical environment, we are 'dead in the water'. We must give high priority to environmental protection in order to ensure the survival of future generations.

The final component is project management. We must invest in this component to manage the integrated planning process from the strategic visioning to the monitoring and controlling of the results of our investment trusts.

REGIONAL POLICY RECOMMENDATIONS

It is recommended that the social partners within each Caribbean country and between countries, in order to alleviate the constraints to agro-tourism linkages, should address the following key areas with immediate dispatch.

Smart Partnership philosophy and practice

When social partners have a shared vision of national and regional development, this expedites progress on the path of cooperative prosperity. The partners pursue win-win initiatives, they seek synergy from interaction and they engender trust, mutual respect and tolerance. This philosophy is the foundation on which sustainable economic growth is built.

The Smart Partnership philosophy should be practised. The role of the public sector in such a partnership is to provide regulatory and service functions, while that of the private sector is to be the engine of economic growth. Trade unions are expected to shift from their aggressive, adversarial and antagonistic approach, more appropriate for the 1940s and 1950s to one where they induce employer/employee harmony towards increased productivity and sustainability for fair compensation. Educational systems must focus on the development of holistic (intellectual, spiritual, emotional and physical) human capital. Research organizations are to explore new ideas for commercial testing. NGOs and other members of civil society must mobilize volunteer and other support services, while the media is well placed to be the integrating factor in regional economic growth.

Global market access

Agro-tourism linkage activity is driven by the global tourism marketplace. In pursuing the global market, the strategy for change requires innovation for service exports success. There must be mind-set change at all levels within the public and private sectors. The traditional approaches will have to give way to the more novel approaches which are consistent with the new world economic order.

There is also a need for skill-set change because, as we diversify the economies, particularly in the service exports industry, the old businesses and the skills used to support them will die away and new information age skills will be required to replace them. A failure to adapt to this process of skill-set change will put the individual at a major disadvantage. Given that much of the trade is going to be across borders, in the global market context, then there will be the challenge to harmonize the cultures on each side of the border. Cross-cultural communications will have to be addressed in the day-to-day operations of the new trading regime.

Generation of business ideas

In order to sustain economic growth, business activity has to continually expand. Business activity, whether it is a new business or the expansion of an existing business, is spawned by the generation of business ideas. The existing situation is that ideas come at random from a local entrepreneur or from a foreign investor, independently or through the efforts of a local investment promotion office. This random advent of ideas is not sufficient to spur sustained economic growth. A more systematic methodology is required for the continual generation of business ideas.

CDB has successfully conducted 'High Impact Growth Strategy' workshops in 12 Caribbean Countries in the last 3 years. The 'Hypergrowth' formula methodology has been successfully adopted to generate business ideas with global market potential. These ideas have included ideas in agro-tourism linkages. This initiative should be supported and developed.

Entrepreneurial and productivity culture

When the full impact of trade liberalization is felt, there is the likelihood of layoffs with the concomitant difficulties of individuals having to find alternative employment in order to support themselves and their families. Whereas, in a stable setting it may be argued that not everyone is suited to be an entrepreneur, it is often found that, in times of crisis, such as unexpected layoffs, one has no choice but to explore business initiatives in order to survive. This, coupled with other national, regional and international resources with a passion for business, then provides the entrepreneurial energy to be matched with the business ideas to stimulate the process of business diversification and growth.

It is recommended that, in each country, incubator parks be established to nurture entrepreneurs who have been matched with Hypergrowth projects. These entrepreneurs, who will share common goals of service exports development, will also share common physical space and business-related services. It has been shown that, in this type of environment, there is an increased rate of business success. The incubator park will train entrepreneurs in the optimal productivity mix which includes not only holistic human resource development, but also re-engineered processes supported by cutting-edge technology.

The expansion of the agro-tourism linkage industry, because of the need for a mind-set change, must be focused on the younger (30-40 years old) managers who have a 20-30 year expected working life ahead. Older managers too should be encouraged to make the change in mind-set but the success rate is likely to be higher among the younger brigade.

Venture Capital and technical assistance

Given that business ideas are generated and entrepreneurs are matched with these ideas, it is important that the emerging businesses be adequately capitalized. One of the constraints to business development in the past has been the heavy debt burden, which the business faces in its embryonic stage, as a result of the financial loan instrument which has been the norm in the region.

Another means of financing, through the seed and equity capital route, has been very successful in other business regimes. It is proposed that an equity capital culture be developed in the region, whereby the source of equity capital funds makes an investment in the Hypergrowth business, in return for which it receives shares in the business. The collateral for equity capital is, in fact, good management. Very often, equity capital organizations are more comfortable partnering with entrepreneurs who have had some experience in business failure and have learnt from that experience. When the business matures, the equity capitalist sells its equity back to the entrepreneur thus allowing the entrepreneur to become the significant owner of the business, makes a good return on his investment, and seeks other businesses in which to invest.

Another important observation is that, in capitalizing a business, there is the need to include a line item entitled 'Business Services' which is to be used to provide preventive, curative and rehabilitative care to the businesses

when in need. The absence of such a line item very often spells demise for a business when it is under stress. Poor cash flow is often used as an excuse not to take the corrective action which is required.

There are some regional and international institutions which provide technical assistance (TA) grants to enterprises, especially for implementation and training activities, to give the business a good foundation on which to grow. Even though the business might be adequately capitalized, the private sector is usually on the look out for such TA in the embryonic stages of the enterprise. In the emerging service exports industry, such TA is going to be required and, in order not to miss any opportunities that arise, fast track mechanisms must be put in place in response to requests for this resource.

The equity capital market in the region is in the embryonic stage of development and there is an urgent need for a fast-track private sector equity capital investment facility for the emerging service exports industry. The Commonwealth Development Corporation's (CDC's) TIONA Fund and the Caribbean Investment Fund (CIF), in both of which CDB is an equity investor, are not designed to satisfy the equity capital needs of emerging service exports businesses.

A new equity capital arrangement must be pursued through the private sector with public sector support.

Business health care service

In order to reduce the risk of business failure, there needs to be a timely preventive, curative and rehabilitative business service to minimize the risk of business failure and to engender a healthy business climate. There is an analogy in the social health care service where the infant mortality rate in the region ranges from 5.7% in Guyana to 0.9% in Cayman Islands (PAHO 1999). The business failure rate in the US, however, is 72 % (original owners) or 46 % (when a new owner takes over) (Kirchhoff 1994). The business failure rate in the region is believed to be at least as high. This means that significant potential for earning foreign exchange and generation of revenue from new businesses is lost. The social cost of unemployment is high and the rate of economic growth is stymied.

If this business failure rate were to be mapped over to the social sector, i.e. if at least 72% of new babies were to die, the populace would be horrified and it would be totally unacceptable. The much lower statistic in the social sector is due to the quality of the health care service. The hypothesis, therefore, is that if there were a good health care service in the business sector, the risk of business failure would be substantially reduced.

In the social sector, the human being has several systems: e.g. respiratory, cardio-vascular, neurological, gastrointestinal, gynaecological, urological; in the business sector, however, there are just four systems: marketing, operations, human resources and finance. If one or more of the several systems in the human body fail, then poor health sets in. Similarly, when one or more of the business systems fail, the business health is at risk.

It is, therefore, incumbent on the social partners to introduce an efficient, private sector-led business health care service network in the region. Such a network would provide appropriate services at the regional and national levels.

Enabling environment

The enabling environment in each country must be user-friendly. This environment includes policies, legislation, administrative systems, institutional frameworks, energy conservation measures, natural resource preservation, information technology and telecommunications processes.

Policy

The existing policies in the region are supportive of private sector investment. Policy development is a dynamic exercise and is best driven by the needs of the trading environment and then communicated to and reviewed and endorsed by the policy-makers. It is expected that, as the emerging service exports industry develops in each country, there will be appropriate pressure exerted through the national nodes to enhance the local enabling environment.

Legislation

Legislation for the knowledge-based service exports industry is weak in the region in the context of issues associated with intellectual property. Collaboration between the countries can avoid much duplication in the introduction of intellectual property legislation.

Administration

Even though it is proposed that the service exports industry be led by the private sector, there are certain public sector administrative support systems which are required for it to be successful. Every attempt, therefore, should be made to enhance productivity both in the public and private sectors in order to increase the competitiveness of the regional service exports industry in the global marketplace.

Institutional

The focus in developing the service exports industry is linking the regional supply chain to the global marketplace or bringing the global market to the Caribbean. It is proposed that a regional institutional hub with global and regional public and private sector equity participation is required to facilitate and expedite the process. This is twinned with the development of national nodes at the country level to ensure success.

Energy conservation

In developing the service exports industry, the focus should be on the use of renewable energy to minimize the leakage of foreign exchange arising from the purchase of fossil fuels. Solar, ocean thermal, wind and wave are examples of renewable sources of energy in the region.

Natural resource preservation

In developing the service exports industry, the focus should be on the use of natural resource preservation to arrest any decline in the physical environment. Garbage separation and recycling, organic farming, coral reef regeneration, forest garden programmes, healthy life styles and support of sustainable development organizations are examples of how natural resources may be preserved.

Information technology and telecommunications

Small states have an opportunity to be on a 'level playing field' with their international counterparts if the intellectual capital, information technology and telecommunications environment is developed in a timely manner. The provision

of knowledge-based services is critically dependent on efficient and cost-effective access to a cutting-edge information technology and telecommunications environment.

Integrated production and marketing systems

This is an amalgam of the production, post harvest handling, storage, distribution, transportation, merchandising and communication services needed for successful trading. If this service is not available, the successful trade between the Caribbean supply chain and the global market is frustrated. This coordinating service, for example, secures a global contract for a product or service; organizes the supply from a selection of countries; influences production according to an international benchmark; organizes the packaging, shipping and delivery to the buyer. The service is complete when payment is received and the funds are distributed to the suppliers, service providers, including the coordinating service, according to a predetermined agreement. A major benefit of this service is that it permits the suppliers to focus on and give their full attention to the production of goods or services and obviates the distraction to become involved in all aspects of the trading experience.

Lobbying and networking in the marketplace

There are some constraints such as protectionist policies and market penetration which must be addressed by lobbying and networking. Overseas missions must focus more on this aspect of their mandate in order to support the other activities that have been discussed above.

Caribbean Business Services Network Inc.

CDB is supporting the establishment of a private sector led regional coordinating entity which will provide business idea generation, feasibility study, venture capital services to stimulate the growth of new and fledgling businesses with potential for growth in the global market place. Agro-tourism linkages in the Caribbean have such potential.

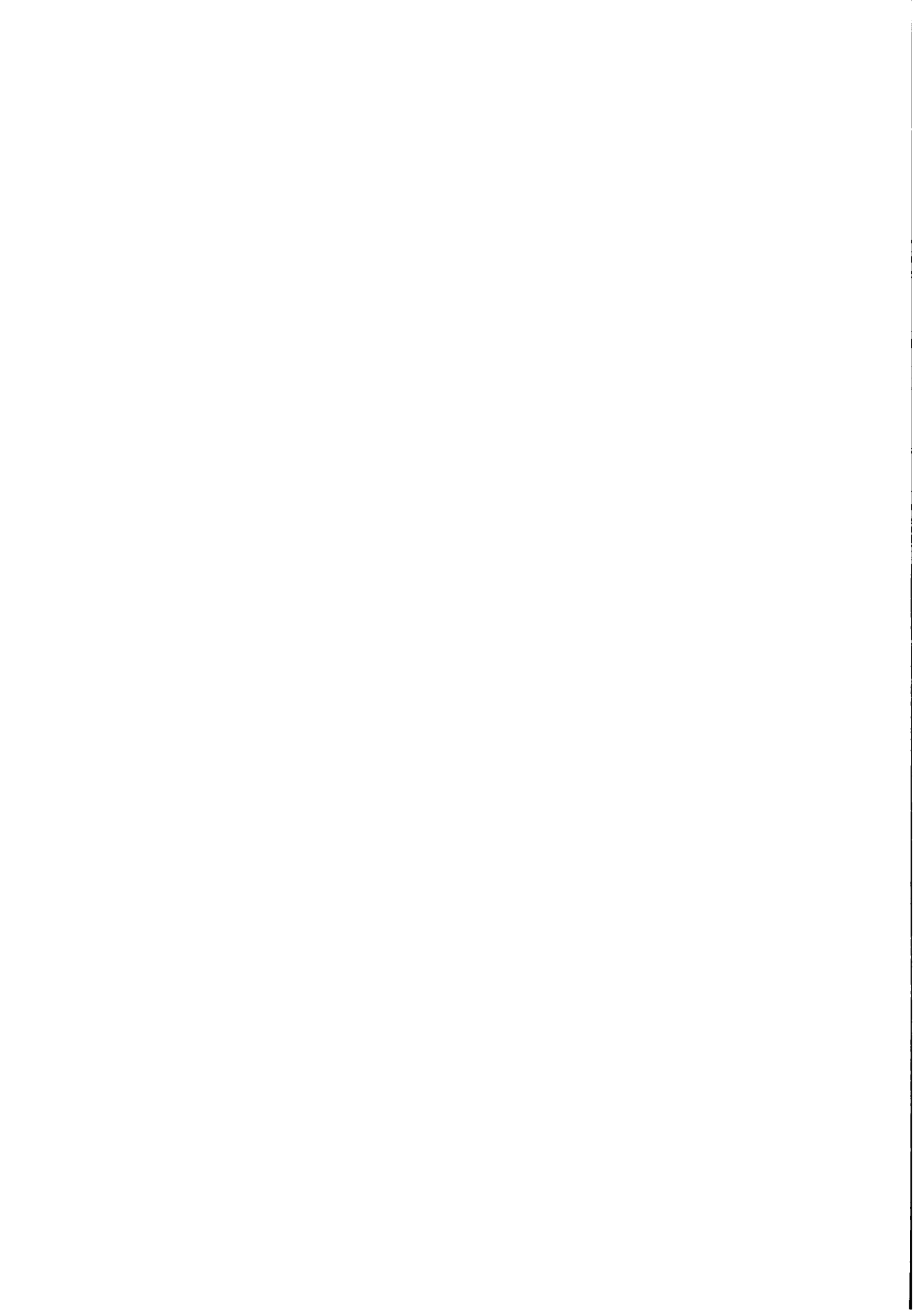
This CDB initiative, which is part of my mandate as CDB Consultant (Service Exports), should be supported by the public and private sectors nationally, regionally and internationally with an interest in sustainable development of small states and emerging nations such as exist in the Caribbean.

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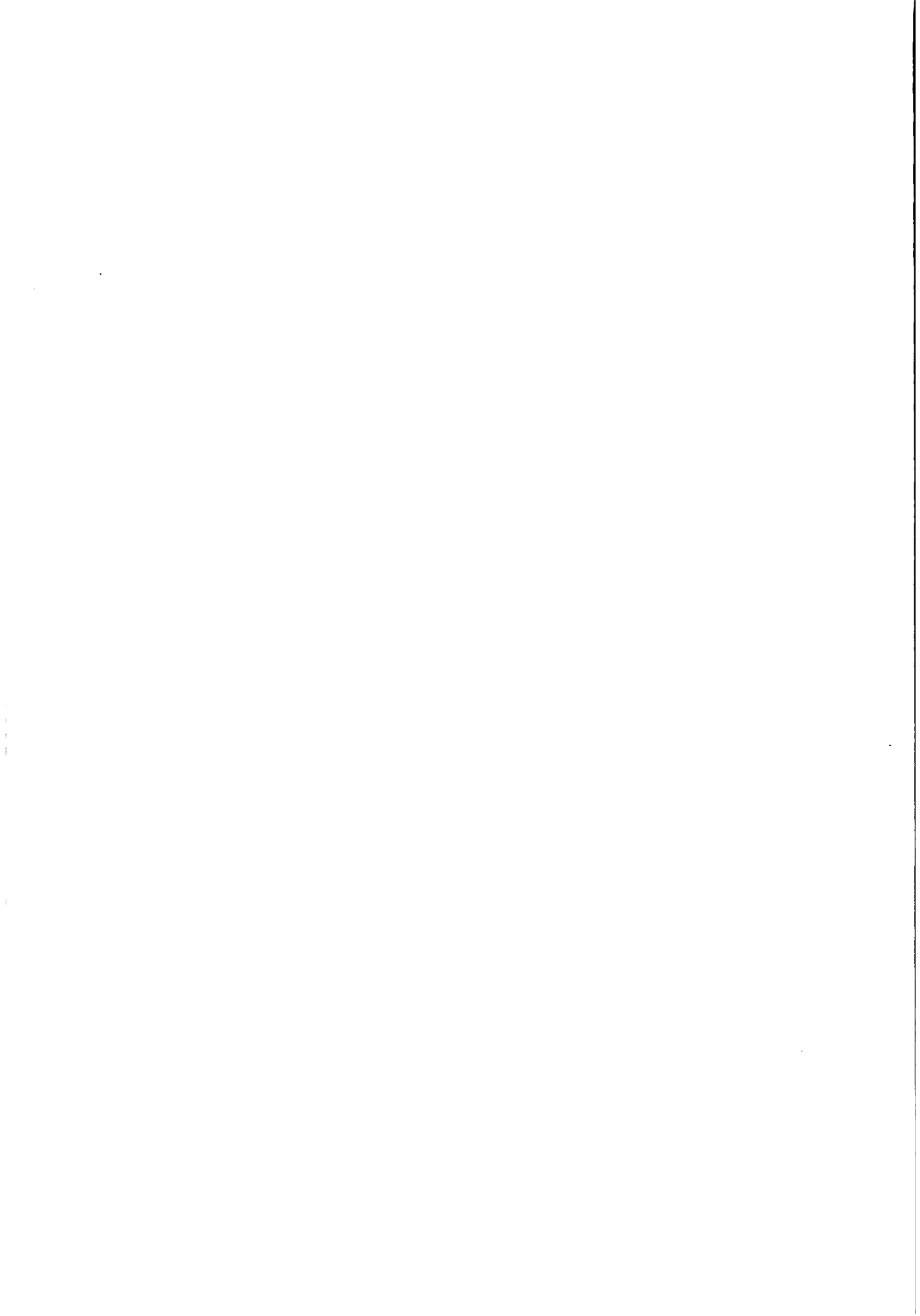
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**HUMAN AND SOCIAL DIMENSIONS
IN
AGRO-TOURISM**





PLACING WOMEN AND YOUTH WITHIN THE FRAMEWORK OF AN AGRO-TOURISM STRATEGY

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INTRODUCTION

With regard to the discussion on the human and social dimension of agro-tourism, I would like to suggest the following:

- Any strategy for economic growth and development in the Caribbean should be framed by concerns for sustainable human development. Sustainable human development has been defined, in the United Nations Development Reports, as the process which enlarges people's choices while raising the level of their well-being.
- As small island developing states with a unique vulnerability brought about by the open nature of our economies, the still prevailing monocrop structure of our economies and our susceptibility to natural disasters of a seasonal nature, achieving sustainable human development brings with it added challenges.
- Because of the intractable nature of unemployment and underemployment in the Caribbean, leading economists have suggested that any development strategy should have as one of its aims, employment creation (ILO 1999).

If agro-tourism is to be viewed as a sustainable development strategy, then I would like to suggest that the measurement of its success could entail:

- The extent to which agro-tourism enables people to achieve an improved sense of well-being
- The extent to which it enlarges people's choices (around issues of health care, access to education)
- The extent to which it limits the erosion of our fragile natural resource base
- The extent to which it increases employment opportunities in the society.

In addition, in light of the impact of trade liberalization and the globalization process, which has resulted in segmentation of the labour market, relegating parts of the developing world and groups within the developed world to low-wage, low-skill jobs, it would be important for policy-makers to measure the success of an agro-tourism strategy in relation to the quality of employment it affords the population. Key among the criteria, then, would be the ability of an agro-tourism strategy to move those employed in the low-wage/low-skill segment out and into a higher wage and skill segment of the labour market.

The higher wage jobs are predicted to be found in the knowledge-based economy so, somehow, we have to situate agro-tourism in the knowledge-based sector of the economy. It will no doubt require the introduction of technology, either in product development or marketing and it will involve improving the human resource base. Thus agro-tourism strategies could ultimately lead to the reduction of social inequity within societies if more people are employed in jobs that result in higher incomes.

It is also important to recognize that agro-tourism occurs in a particular socio/historical context:

- That socio/historical context in the Caribbean is one in which a hierarchical social structure based on colour, race and income became the dominant social structure and has not yet been changed. This structure was inherited from the period of enslavement, indentureship and colonialism and it allows for privilege based on these characteristics.
- Agriculture has been stigmatized as something persons pursue who are unable to achieve success in other professions, or who are unable to move up the hierarchy of the existing social order. It is still seen as less than other professions, this view reinforced in the main by the low income which agriculture provides for the majority of its work force.
- To the lay person – for whom it makes little difference that the Caribbean earns around US\$8 billion annually from foreign visitors, accounting for nearly one half of its foreign exchange earnings – tourism does not appear to impact positively on their ability to access better health care and education, and other social amenities. On the contrary, tourism comes with negative baggage – the tourist resembles the old slave master/colonizer and he or she often comes with the 'ugly tourist' syndrome i.e. disregard for the cultures and practices of the native. Tourism brings with it new social values, new social constructs, new tastes – good or bad – new land uses and dislocations and exclusion from new or familiar locations.

Assuming that we can address the socio/historical context of agro-tourism and therefore can foster an acceptance of tourism and agriculture among our target populations (and may I suggest that it will take more than a 'no problem' or 'be nice, its nice' campaign to achieve that end) then we may wish to ask how ready are our populations to take up the opportunities that can obtain within the sector?

WOMEN AND YOUTH

What is the current position of women and youth in terms of their readiness to take up the opportunities of this relatively new tourism sector?

Youth and the labour market

The share of youth in the unemployed population is higher than 30% in most countries in the region. In every instance the unemployment rate among female youth is higher than that among male youth. The extent of youth unemployment in the region has led experts to conclude that the problem of unemployment in the Caribbean is a problem of youth. It should be noted that where youth are employed they are not employed in any significant proportion in the agricultural sector. Youth can be found in the retail, sales, service and craft and related trades categories and in the community services category. Income earned in the agricultural sector is among the lowest in the labour market and this may be a deterring factor to attracting youth participation in the sector. It would seem that if we wish to attract youth to the agro-tourism sector the income levels would have to be higher than that which currently prevails in the agriculture sector.

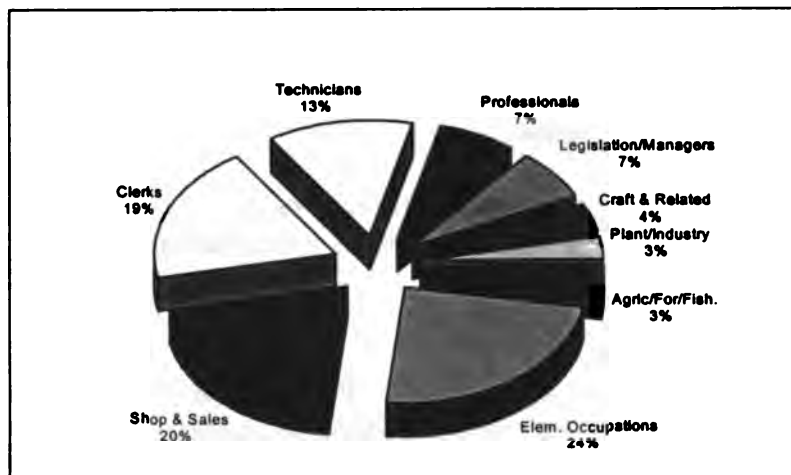
Women and the labour market

Labour force participation rates for women are still lower than participation rates for men and unemployment rates for women are higher in all age groups. At the same time women receive lower wages than men for the same work.

Agro-tourism – a sustainable approach to economic growth

Women can be found in the low-wage low-skill segment of the market (Figure 1). We need to address this if we are to influence women's participation in the agro-tourism sector. It is important to note that responsibility for reproductive work still falls largely on women and there is an inadequacy of support services – childcare and care for the elderly. This lack of support services acts as an inhibitor to women's full participation in the work force.

Figure 1 Percentage female in various occupations, Trinidad and Tobago



Source *Trinidad and Tobago data. 1991–1996*

Education and the building of the necessary human resource capacity

There is little disagreement that the quality of education in the sub-region is not commensurate with the middle-income status of our economies nor with the middle-income ranking in the human development index which the English-speaking Caribbean holds. The World Bank Report (World Bank 1992) on the status of the education system in the Caribbean revealed that there were low levels of attainment of full secondary school passes, low levels of literacy and numeracy and that enrollment at the tertiary level was low. Such low tertiary level enrollment rates indicate that the region is not poised to compete in the knowledge-based sector.

What is the good news?

Women in the Caribbean have always participated in the agricultural sector and in a wide range of occupations within the sector. They have led the way in agro-processing and innovations in food preparation. The not so good news is that the current batch of women now working in the agricultural sector is an aging population group. In many counties women working in agriculture are 50 years old and over.

Possible projects which could engage women and youth tourism in agro-tourism

Agricultural site visits

Sites can be developed by communities themselves. Youth can be trained as tour guides and how to market the sites using the latest information and telecommunications technology. The Mathura Turtle Watchers Guides is a good example.

Cultural/heritage tourism

It has been suggested in previous presentations that there is a link between agro-tourism and cultural heritage tourism through the food and agro-product which is an added attraction. We should be mindful that the target group for such tourism cannot only be found within the national community but at the regional level. Of course the Caribbean diaspora has proved to be an excellent niche market for the carnival celebrations worldwide. The international tourist can also be attracted. The current cultural tourism products such as Emancipation celebrations, Tobago Heritage Festival, Divali celebrations all have significant women and youth involvement. It is necessary to examine the products to ensure the most is made of its income earning capabilities. Data on the African American tourist market indicate that there is as yet untapped the US\$48 billion market of African American travellers, for whom cultural/heritage tourism is a leading attraction.

Self-sufficient/nearly self-sufficient models of small guesthouses or eco-inns

These could be run on the family farm model utilizing the latest telecommunications technology to improve marketing and production thus increasing income.

Development of special agro-tourism products

Body scrubs (*Luffa sp.*), locally called 'torchon', are an example. These could be planted, harvested, processed, and marketed. Small agro-processing cooperatives could be established in a community utilizing youth to farm and women and youth to engage in the agro processing and marketing aspect of the project.

Furniture

Locally designed and produced from indigenous materials, this, as a product in the tourism sector, needs to be expanded. Many young designers need financial facilities to produce on the scale that is economical and to engage in the marketing of the product.

Clothes

Women and youth have already demonstrated a capacity for original designs, competitive products and good marketing. A number of young designers are involved in adding value to fabric by painting, tie-dye and other techniques. What are missing are the backward linkages in fabric production made from cotton and other natural fibres that can be grown and processed in the region.

CONCLUSION

In conclusion, I would like to reiterate the following:

- To be successful, agro-tourism must take the human and social dimension into consideration.
- A successful agro-tourism strategy would be dependent not only on improvements in plant and facilities but is dependent on building the human resource capacity of the target populations.
- As a strategy for sustainable human development it has the capacity to improve the quality of life of the populations as it can increase employment opportunities.
- We should learn from the experiences of various programmes – one lesson of caution has to do with the emphasis on micro-entrepreneurship training as a response to youth unemployment. An examination of the data regarding own account workers indicates that young persons between the ages of 15 to 24 make up a very small percentage of that group. As well, much of the training in micro-entrepreneurship has been targeted in the past to young people who had little chances of success due to levels of education attained,

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levels of experience in the field of business being pursued, capacity for family support or other financial support for business development and marketing support among other factors.

- Like all other development strategies, interventions must be properly researched, targeted, planned, monitored and evaluated.

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THE REALITIES OF THE SMALL AGRO-ENTREPRENEUR IN THE AGRO-TOURISM MIX

Jesma MacFarlane and Trevor Craig
JPANABI Co. Ltd. and Hortica Ltd., Tobago

INTRODUCTION

Small agro-entrepreneurs in Tobago contribute to the tourism mix but in an unstructured way. There is urgent need to structure their contribution if they want to maximize the benefits that small entrepreneurs must enjoy in the tourism mix.

Agro-entrepreneurial activities, which contribute to the agro-tourism mix, include, inter alia:

- small subsistence farming in areas such as vegetables, seasonings, ground provisions, chickens, ducks, pigs, honey, eggs
- fishing
- wildlife farming
- horticulture (cut flowers).

We have looked at the small agro-entrepreneur from several perspectives. What is the input of small-entrepreneurs to the tourism mix? What is their interaction with the tourism authority? What is the competition they face? How are they positioned to capitalize on their choice of industry? What are the economic benefits for them? These are some of the questions in need of answers.

PERSPECTIVES

The perspectives that we believe will integrate the small agro-entrepreneur in the tourism mix are:

- Developing an agriculture policy as a matter of urgency.
- Leveling the playing field to allow the Tobago entrepreneur access to benefits and markets.
- Creating industry standards and developing a standardization formula to facilitate things like pricing and day's payables.
- Developing ethical and moral standards.
- Attempting to achieve economies of scale through cooperatives. This is not a new idea since Dave Ramsaran alludes in his article on 'Entrepreneurs in Trinidad and Tobago: A Sociological Survey' to cooperatives as having a strong tradition in Tobago during the post-emancipation period. Although he admits that these operations were not studied sufficiently for analysis. If we look at the confectionery vendors at the airport whose products originate from agriculture, we see where a cooperative approach will bring greater rewards. If we look at the small size of agricultural plots, there is much greater gain from 10 people producing 3,000 cut flowers each, instead of one person producing 3,000 only. Market share will be enhanced.
- Capitalizing on their competitive advantage. For example geographic location (we are already on location as opposed to the importer); giving value for money in terms of organic foods, fresh and

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quality products; absence of a middle man; reduced overhead resulting in lower production cost; unique products; niche market and niche market differentiation.

- Networking and forming linkages with the tourism authority to promote and integrate their products. Participating in trade fairs. Taking this opportunity to showcase products in new and unusual ways and introduce new products. For example dasheen bread, christophene pie, breadfruit and cassava chips, cassava bread pizza, showcase whelks and crawfish, use 'crep coq' as spinach, conch souse.
- Employing differentiation strategies and branding of products.
- Demonstrating substitution of imported products by local products. For example christophene to replace apples in apple pie, local wines, sorrel sauce to replace cranberry and many other product substitutes.
- Consistency, even if it involves networking and forming linkages with other players in the industry.
- Proper packaging and labeling of products.
- Forming linkages with all aspects of the industry that affect business. For example access roads may be in disrepair and affecting mobilization of produce. Agro-entrepreneurs therefore need to lobby and to know who are the ones in authority to assist.
- Sharing opportunities with others in the industry.
- Innovation and rekindling of old traditions.
- Creating need for our products. This will need the input of the tourism authority.
- Concentrating on niche markets and especially products which are in demand but for which macro-entrepreneurs cannot fulfill the need because the size of the land space does not permit them to achieve economies of scale. For example planting and harvesting pigeon peas.
- Concentrating on seasonal products such as pigeon peas, bene, sorrel.
- Involving local hunters in the eradication of pests such as the cocrico and parrot which are affecting our produce, until the relevant authorities can find the staff to do this job.

THE EXPERIENCES OF A SMALL ENTREPRENEUR IN AGRO-TOURISM

Background

Small entrepreneurs supply most of the perishable agricultural products to the tourist sector. Most of the processed and manufactured food and beverages are supplied to the sector by marketing intermediaries i.e. wholesalers and distributors. However, small entrepreneurs supply almost all of the perishable food items provided to Tobago's hotels, guesthouses and restaurants. The value of the supplies of fresh fruit and vegetables to the tourism sector is approximately \$5.75 million annually.

We have been hearing for years the complaints of hoteliers that they cannot get a consistent or dependable supply of fresh agricultural produce. The involvement of one of the authors, Trevor Craig, was engendered because he perceived that a business opportunity existed from which one can benefit. By a process of information gathering, observation, analysis, decision and action, he took the plunge. Answers were sought as to what is needed and in what quantities. What could he produce? At the price that they are sold, can a profit be made? How can the seasonal variations in supply and price be exploited?

A vegetable production factory, growing premium quality greenhouse vegetables was designed and constructed. Naturally, the tourism sector was seen as an obvious market for the products. The aim was, and still is, to provide a year round supply of vegetable to the sector but there were some rude awakenings.

Realities

Myth Number 1: A premium product would command a premium price

Rules of doing business: In this business the market forces of product demand, supply and price are the governing principles. In those governing principles, price rules supreme. If your price is too high then you cannot sell your product. If your product is of the correct quality, you are only able to do business providing that your price is right. The determinants are whether the product falls within the acceptable range as far as quality is concerned and the price is right. A quality greenhouse produced tomato with all the quality attributes of colour, size, taste, succulence, shelf life, does not command a premium price. Not when a tomato is available which cost two dollars less per pound.

If there is scarcity of any given product, price movement is possible within a certain range already defined by the hotelier. Anything above that, the customer, i.e. the hotelier, will substitute another product or buy less. The rules are laid out sometimes implicitly and sometimes explicitly. One must live by the rules set for you or perish. That is the unfortunate reality. Small entrepreneurs simply have little say in the mix. In the Tobago sense, to a large extent, they are price-takers because price is largely determined by the competition from Trinidad agro-entrepreneurs.

The way business is done

Some hotels and restaurants pay on the spot depending on the value of the sale. Those that do not pay on the spot, particularly the bigger hotels, indicate that they pay in seven days. In other words, they do not *ask* you for seven days' credit. They *tell* you that you will be paid in a week. It is not unusual that the reality is more like three weeks to receive payment. A simple calculation demonstrates why this is a problem. Day's payables are calculated by dividing pretax cash expenses by 365 and dividing operating expenses by the result. This gives the amount of day's credit that can be extended. Some hotels are putting small business under pressure: one hotel even wanted 90-day credit as a condition of doing business with them.

Something has to be wrong with that. Credit arrangements ought to be negotiated between buyer and seller. However, in the same manner that sellers are price takers, they are also subject to the rules set out by the buyer. Agro-entrepreneurs therefore operate in a buyers' market. So, in other words, small entrepreneurs, if they cannot wait for their payments, cannot do business with the bigger hotels. As stated previously, you must live by the rules set for you or perish.

Hortica Ltd. once supplied vegetables to a restaurant and was paid on delivery. That was in the beginning. Within weeks, it was: 'Come back later', then '...tomorrow'. Then the restaurateur wanted to be abusive when it was pointed out that he was changing the rules agreed earlier without consulting with the seller. He has since stopped ordering produce from Hortica Ltd. But then, lettuce is quite plentiful, so too are tomatoes. There will be the wet season and Hortica hopes to be still in production.

Trade generated between hotels and small entrepreneurs

Depending on whom you ask, you will hear a song about how much trade is generated between hotels and small entrepreneurs or you will hear songs of woes. It is all a matter of perception. If you ask the hoteliers,

the song you will hear is that the small entrepreneur is already integrated in the agro-tourism mix. They will point to the fact that all the oranges and other citrus, pineapples, papaya, and other fruit in season to green vegetables and condiments i.e. lettuce, patchoi, cucumbers, celery, parsley, i.e. thyme, basil, balsam, chives etc. are supplied by the small entrepreneur.

If you ask Trinidad agro-entrepreneurs, the song coming through is that they have a very lucrative relationship with the hotels and restaurants. But try asking Tobago agro-entrepreneurs, they will tell a story which shows that they are getting the crumbs off the table because the majority the entrepreneurs/producers are not Tobago-based and most of the food consumed in the tourism sector is brought in from Trinidad.

In other words, the real linkages, the integration in the agro-tourism mix, are really between the agricultural sector in Trinidad and the tourism sector in Tobago with the Tobago agricultural sector receiving residual benefits. Why is that so? Are Tobagonians unenterprising? Are they risk-averse? The reality is that Tobago entrepreneurs are forced to play on a playing field of a design that has a 60° slope and are made to run up that slope as well as swim against the tide of current business practice. As a result, the reality is that they find that they just cannot compete with Trinidad agro-entrepreneurs on price. To the big hotels, Hortica Ltd. is only able to sell lettuce. To a small hotel of 31 rooms, we are able to sell lettuce and celery and tomatoes in the wet season.

The playing field

There is a myth, which has widespread currency that Trinidad and Tobago being one country, fiscal measures enunciated by the Minister of Finance apply with equity across the board – both in Trinidad and Tobago. At present, there exists a glaring inequality of treatment between Trinidad farmers and Tobago's farmers.

To illustrate the point, in 1999 the Minister of Agriculture unveiled an Incentive Scheme for agriculture in which the fiscal measures covered a wide number of areas of agricultural inputs. While farmers in Trinidad enjoy the benefits of the incentives, Tobago farmers, after two years, are denied these incentives. There is some evidence that suggests to Tobago farmers that there may even be a policy to present Trinidad farmers with a distinct and unfair competitive advantage over Tobago's farmers. After all, Tobago is a major customer of Trinidad farmers and should Tobago begin to be self-sufficient once more, Trinidad farmers will suffer tremendous decline in wealth. This 'evidence' includes:

- Over the two years, no money has been allocated to Tobago House of Assembly for running the Incentive Scheme.
- In the provisions within the scheme itself, machinery and equipment incentives are limited to tractor and implements, i.e. brush cutters, ploughs, harrows, trailers, and not for the widest range of equipment used in agriculture as was previously given when the incentives used to be called subsidies. Who would really own tractors and implements? Certainly not Tobago farmers with their difficult terrain and smallholdings.
- An incentive is provided for a used vehicle providing that that vehicle is 'foreign-used'. If it is not foreign-used, you do not qualify. Is the incentive designed to provide farmers with transportation to their holdings and to markets etc. or is it designed to take care of the foreign-used car dealers?

With vision and concern for agro-entrepreneurs, Tobago farmers could be enjoying the benefits of the Agricultural Incentive Programme. Nobody could blame THA for spending money, even it was not allocated in the budget, for an enhanced package of incentives for Tobago's farmers and fishermen.

These are serious disadvantages, which Tobago agro-entrepreneurs must overcome if they are to seriously compete with Trinidad agro-entrepreneurs. They are already faced with a cost structure which is prohibitive for it results in the cost of production inputs in Tobago being more than 60% higher than the cost to farmers in Trinidad. It is unacceptable that the Tobago entrepreneur be expected to be satisfied with crumbs from the tourist sector. The Tobago agro-entrepreneur must be the major beneficiary of the linkages between the agriculture and tourism sectors.

SUGGESTIONS FOR SOLUTIONS

How can the process of integration of small Tobago entrepreneurs get kick started? In a nutshell, there must be a commonality of purpose between the three major stakeholders:

- Buyers (hotels, guest houses and restaurants)
- Sellers (agro-entrepreneurs)
- Policy makers (THA and central government)

Buyers

The buyers, hotels, guesthouses and restaurants, must take a conscious decision to encourage the linkages between the two local sectors. Some hoteliers already do but others have taken the concept of 'all inclusive' to new extraordinary dimensions. Now some are operating their own vegetable garden, eliminating the agro-producer in addition to taxi drivers and tour operators as they provide their own courtesy vehicles and tour operatorships. Who is looking after the interests of the small people?

More than simply the desire that hotels/ restaurants pay within a week of receipt of the goods, it would be courteous and ethical to have the supplier be part of the process of determining credit arrangements.

Sellers

There should be the desire on the part of the Tobago agro-entrepreneurs to take possession of, to totally dominate, the providing of goods and services to the tourism sector. This should not merely be a thought but it should be articulated, and measures put in place to execute a plan of action to achieve the stated objective. The mission of the agro-entrepreneurs should be to provide a year-round supply of goods and services, of consistently acceptable quality, at a competitive price.

Agro-entrepreneurs should therefore start working closely together to secure benefits. Agricultural Societies and Cooperatives need to be transformed to business organizations, to become direct importers of agricultural inputs and marketers of agricultural output. In other words be more conscious of their value chain. They must all become united under one entity to function like watchdogs over sectoral interests, not as talk-shops. Unity is strength and collectively the sellers have the clout to get the attention of the powers that be. This can happen only when they speak with one voice. Why not an Agricultural Chamber of Commerce, representing sector interests in the Tobago Chapter of the Chamber of Industry and Commerce?

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Notwithstanding the ambitious intentions, achieving this objective would be very difficult if not impossible without the active support of the state. The trouble is that there are too few of us really. Agro-entrepreneurs in Tobago have become an endangered species. Just look at the average and median ages of the farmers: the average age of farmers is above 65 years.

The technology used in the sector is largely technology of a hundred years ago, i.e. hoe and cutlass, whereas our competitors use tractors. Nonetheless, with the right kind of support from the state, people will feel encouraged to get into agriculture and agri-business. With the right kinds of support and incentive, the sector will attract a new breed of agro-entrepreneur.

Policy-makers

There must be a paradigm shift. The central government must immediately remove the inequities now present in the incentive scheme and in the process broaden it to be really all-inclusive. It is proposed therefore that:

- The range of machinery and equipment should not be restricted to those currently stated. All items of machinery or equipment, which are being used for agriculture, should be able to attract support under the incentive scheme.
- In addition, innovation should actively be encouraged by providing sector-specific mechanisms, to finance innovation, and to reward successful innovation.
- The government must look again at the Customs and Excise classification of items agricultural. Many plastic items, e.g. plastic seedling trays, drip lines, nozzles, greenhouse plastic etc., which as agricultural items should not attract duty, are charged duty nonetheless. They are classified as items of plastic and as such attract duty. In the same way that computer hardware and software do not attract duty and VAT, all agricultural inputs should be duty-free and VAT-exempt.

The agriculture sector appears moribund in the face of a thriving tourism sector. Critical areas of constraints must be addressed. These include: agricultural access roads, water for agriculture, praedial larceny, crop diseases and pests e.g. parrots, cocrico and other bird pests like the parakeet. In addition, Red Ring disease in coconuts has resulted in a situation whereby new coconut cultivation is experiencing mortality of almost 100%. As a result, land-use changes have resulted in more and more former coconut estates being transferred into residential, commercial and tourism development. As a consequence, it is not a farfetched thought that Tobago will soon be importing dry nuts and green nuts in addition to all the food it now purchases from Trinidad. Lettuce and dasheen bush are being imported into Tobago at present; coconuts and pigeon peas will soon follow.

Agro-entrepreneurs at various levels in the production process need help. It is not acceptable that lack of funding prevents implementation of the Agricultural Incentive Scheme and improvements in access roads, pest control, provision of water for irrigation assistance with marketing.

A definitive agricultural policy is needed to proactively pursue solutions to the current problem of 'moribundity' in the sector. The Tobago House of Assembly must invite submissions from all the stakeholders and from those submissions develop this policy and it must define a path forward that attracts a new breed of agro-entrepreneur and is geared towards technological advancement through innovation. Tobago's agriculture should benefit from an enhanced fiscal incentive package so as to offset the cost

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differential between production in Trinidad versus Tobago. Laboratories such as CARIRI must undertake Tobago-specific research and development to address the development of equipment for small scale processing, fish filleting, pigeon pea harvesting and shelling, postharvest technology and other areas of importance. The marketing of agricultural produce is a critical area and that should also be addressed in the policy document.

CONCLUSION

Soon after emancipation (around 1848) Tobago's micro-entrepreneur operated under a metayer system – a practice of dividing the produce of the soil in rateable proportions between the proprietor of the land and the labourer who tilled the land. It operated until 1884 when the London House of Gillespie Brothers, on whom half of Tobago sugar estates depended for supplies and advances, failed and the price of sugar and the outlook being at their worst, no new capital came into the island. However with the union of Trinidad and Tobago, a new market was opened up for garden produce. When sugar was at a low price the small farmer planted yams, pigeon peas, sweet potatoes and shipped them to Trinidad, which at that time imported vegetables. Tobago is once again faced with a union, embracing tourism, and a market has been created for the small entrepreneur. The buyers, the sellers, the policy-makers, must work together to capitalize on this opportunity and potential for economic gain.

LA VEGA ESTATE

Karl Burgess
La Vega Estate, Trinidad and Tobago

INTRODUCTION

La Vega Estate, comprising of 100 hectares, is privately owned by Bertram Manhin. This estate, located in Central Trinidad in the vicinity of Gran Couva, is blessed in parts with natural forest, cocoa and in portions with the Couva River. This study summarizes La Vega Estate's development, present status, constraints and future challenges.

DEVELOPMENT OF THE ENTERPRISE

Purchased in 1983 the estate has shifted its activities away from cocoa production into a wide range of diverse activities. The growing of vegetables e.g. sweet peppers, tomatoes and the like, was its initial thrust. Activities then developed into the production of cut flowers namely heliconias, anthuriums, and gingers both for the local and export markets. The European market was made possible because of the presence of British Airways, KLM-Dutch Airlines and BWIA flying out of Trinidad into Germany, Switzerland, Holland and London. This gateway to Europe was closed when these airlines ceased operations of the Europe-Trinidad route. However, BWIA still flies to Europe. In addition, other interrelated factors affected the export market, namely:

- competition from Costa Rica and Ecuador whose flower prices were 20–30% cheaper than ours
- European customers were not familiar with the tropical blooms and it was difficult to penetrate these markets
- a constant supply of flowers were not readily available
- some agents acting on our behalf were acting in their own interests.

During the production of flowers, with its inherent problems, two main activities were simultaneously being developed:

- i. The collection of exotic fruits began. Mr. Manhin's travels resulted in his introducing into the country fruits like Pawa (*Bactris gasipaes*) from Costa Rica, Brazil and Peru; Rambutan (*Nephelium lappaceum*) from Malaysia; Pois doux (*Inga edulis*) from Brazil; Mangosteen (*Garcinia mangostana*) from Malaysia; Abiu (*Pouteria caimito*) from Brazil. These efforts encouraged the establishment of small plots of fruit trees at La Vega Estate.
- ii. The idea was conceived for sections of the Estate to be used for recreational/outdoor activities like picnics, nature trails and family days, and leisurely walking.

PRESENT STATUS

La Vega Estate concentrates on the following activities:

Ornamentals

This involves the production of a wide range of ornamental plants for both indoor and outdoor landscapes. Plants are produced in varying sizes and prices thereby catering for both wholesale and retail persons.

Fruit Production

The major fruit types being grown are Pawa, Rambutan and Five Fingers/Carambola, and these fruits have the best market price and acceptance to date. Other minor fruits e.g. Abiu, Canistel, South American Sapote number less than 10–15 established plants to date.

Gardens

Established are collections of Bromeliads, Cordylines and Palms. These plants serve the purpose of aesthetics, education and as stock material for the multiplication of plants.

Recreation

Areas exist for picnics, weddings, family days, religious activities, leisurely walks, fishing, canoeing, and ponds for observing waterbirds and aquatic life. The area is also blessed with wildlife including deer, agouti, maniocou, matte, iguanas and large numbers of bird types.

In addition to the above, the Estate organizes open days where the public is allowed the tasting experience of La Vega Estate's exotic fruits including 'heart of pawa palm' and 'carambola juice'. On these occasions lectures on growing bougainvilleas, or bonsai and floral arranging are conducted.

CONSTRAINTS TO DEVELOPMENT

The major constraints to the development of the estate revolve around:

- Losing sight of its vision and its mission which is: *To ensure quality of life, guarantee customer satisfaction through the production, promotion and provision of horticultural products, and to provide activities for healthy living for the benefit of all people*
- Identifying the problems of each area of concern and developing meaningful and sustained solutions.

The areas where greatest constraint arises include:

Fruits

Generally:

- The wide genetic variation within the varieties and having to develop selection criteria based on cultivars. Therefore, we have to examine for yield characteristics, fruit size, shape, texture, flowering patterns, fruiting and harvesting times.
- The time frame for fruit maturity e.g. Rambutan bears within 3–5 years with optimum yield at 10–12 years. Proper research and development programmes must be effected as early as possible, to decrease these time frames.
- The problems of pest and disease, especially the fruit fly and anthracnose.
- The methods of propagation (budding grafting, air layering) do not produce any meaningful results. New techniques/methods have to be introduced in order to reduce the time from propagation to harvesting.

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Ornamentals

The major constraints include:

- Maintaining and sustaining quality plants at competitive prices.
- Cost of importing seed material on an ongoing basis.
- Maintaining the wide range of varieties, as specimen and as stock plants.

Financing

This includes:

- Proper budgeting procedures for all areas of concern via setting priorities and being cost effective as possible, which is critical with private funding.

Security

Including:

- Praedial larceny of fruits.
- The hunting season. Hunters do destroy the wild life. Young toucans are sold for TT\$300.00–500.00, whilst other wild life, as indicated earlier, are also caught and sold.

Social cultural climate

- Our efforts aim at educating these persons to think differently since La Vega Estate is a Garden Centre. Some have been sent on courses at the Ministry of Agriculture Farmers Training Centre while we conduct in-house training programmes in areas of the care and maintenance of plants.

CHALLENGES FOR THE FUTURE

For La Vega the challenge is to:

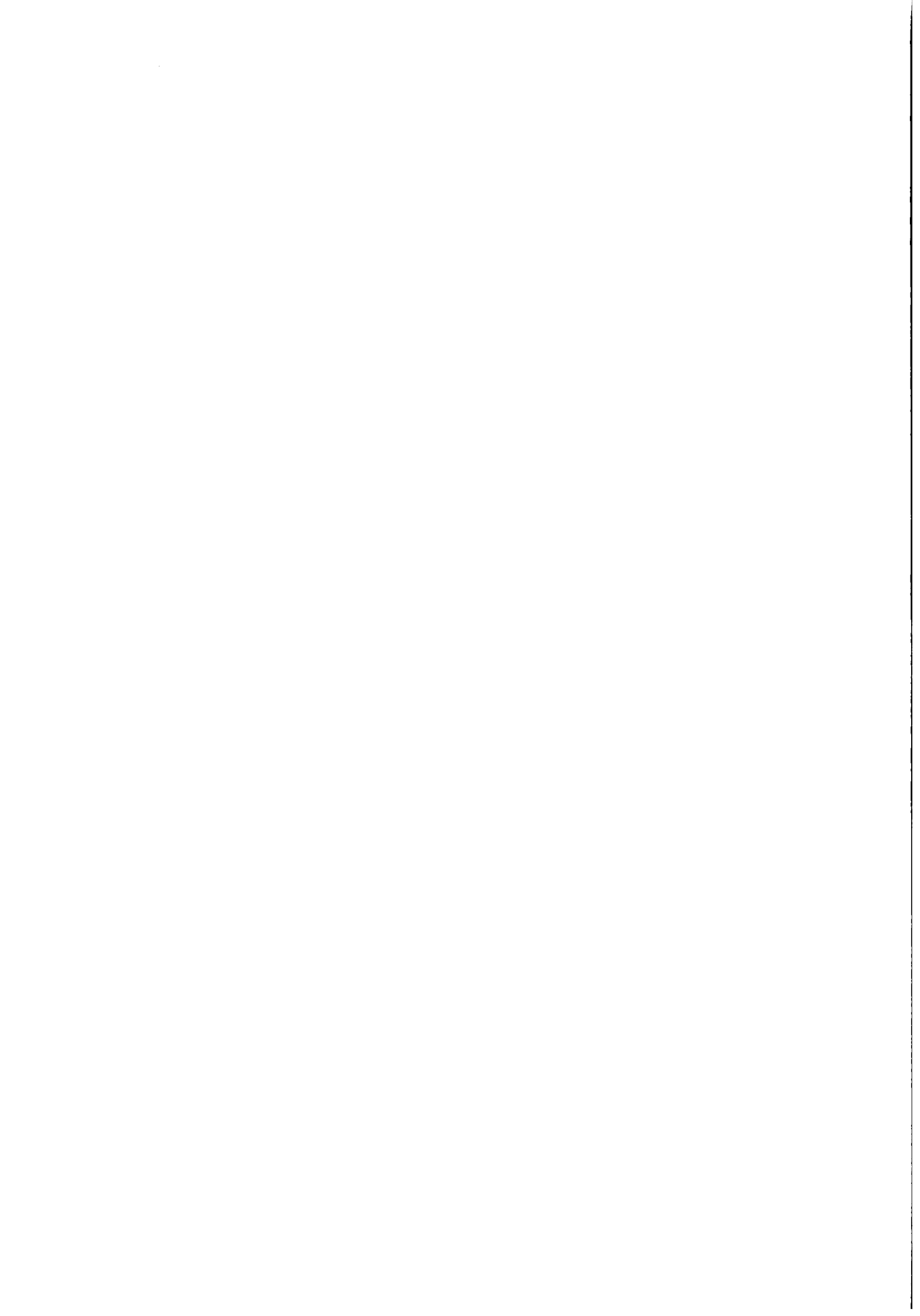
- sustain and share the Estate's vision with all concerned so that there will be a common goal and a sense of caring
- maintain and sustain quality products and services
- institute quality management practices i.e. proper planning, setting priorities, phased implementation of projects, and not to attempt to go too fast
- establish environmental management practices e.g. proper waste disposal, use safer insecticides, be environmentally friendly
- computerize all our activities and areas of concern
- continue the collection of exotic fruits and other plants to extend our germ plasm collection
- establish cabin-type facilities.

CONCLUSION

La Vega will continue to evolve and this will be achieved by not losing sight of its vision/mission and ensuring that all who visit will have an experience that will remain etched in their memories.

**THE ENVIRONMENT
AND AGRO-TOURISM**





ENGENDERING SUSTAINABILITY IN AN AGRO-TOURISM STRATEGY FOR DEVELOPMENT*

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INTRODUCTION

This topic begs some key questions:

- What is sustainability?
- Sustainability of what?
- Sustainability for whom?
- What benchmarks need to be established for monitoring such sustainability?
- Why consider sustainability in an agro-tourism strategy?
- Why not in a strategy for national development?

Relevant to these questions are some key considerations:

- No standard or simple answers are available
- The context for development differs from country to country
- Each country must under take its own analysis of issues related to sustainable development

Official support is necessary for promoting a national understanding of development issues and building national consensus around agreed developmental strategies. Eight years after the Rio conference on environment and development, it is instructive that such questions still need to be posed and that contextual frameworks for national action on sustainable development still need to be explored and articulated.

WHAT IS SUSTAINABILITY?

With respect to development several aspects of sustainability are germane to our discussion:

- environmental
- economic
- social
- cultural
- political

Within the context of agrotourism development, all are relevant. Within the context of a holistic developmental framework, sustainability promotes a balance between the use of and production or retention of the various forms of natural resources and other capital assets available to a country. It aims to use *only* (or as far as possible, *mainly*) the interests generated by national capital assets, without depleting those assets or their income-generating capacity. It is worth noting that the concept of capital assets appears central to this definition of sustainability.

SUSTAINABILITY OF WHAT?

The sustainable use of our capital assets (physical, biological, institutional) must be considered. In summary, national capital assets include:

- Natural capital – gifts of nature to the society i.e. biological and physical resources, and the natural interactions between them.
- Human capital – labour, skills, capabilities to utilize and adapt technologies.
- Man-made capital – components of physical infrastructure, stocks, equipment.
- Institutional capital – social, legal, organizational infrastructure for economic and other development activities.

Agro-tourism depends upon the use of all of these elements of the national capital asset base. My focus will be on the use of natural capital assets, principally as it relates to management of the environment. However, within the context of this discussion, it must be underscored that the use of human, man-made and institutional capital must also be central to sustainable agro-tourism development. How then can we address sustainability in the use of natural resources for promoting agro-tourism while striving for balance?

Two key considerations are necessary prior to any further analysis:

- Agriculture depends upon the use of major components of the natural environment.
- The tourism industry also cannot survive without major use of natural resources.

What, more specifically, are the components of the natural environment linked to agro-tourism? More acute definitions of natural capital are required in order to assist us in placing greater focus on those elements with direct linkages to agro-tourism including:

- Ecosphere:
 - Renewable elements – water, terrestrial biomass (flora and fauna including people), aquatic biomass
 - Non-renewable elements – land, minerals, metals, fossil fuels.
 - Semi-renewable elements – soil quality, the assimilative capacity of the environment.
- Terrestrial environment (associated flora, fauna and air found in all categories):
 - Natural components
 - forests
 - savannahs
 - wetlands
 - mountains/hills
 - caves
 - minerals
 - rivers/streams/lakes
 - Altered components
 - agricultural land

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- paved roadways; utility lines, conduits and other engineered infrastructure
- commercial, residential, industrial, recreational and other forms of built environment
- degraded or abandoned land.

▪ Marine environment:

- Physical constituents
 - beaches (rocky, sandy)
 - cliffs
 - river mouths
 - water column
 - minerals
 - wave action/tidal action
- Biological/ecological constituents
 - flora
 - fauna
 - ecosystems (mangroves, sea grass beds, coral reefs).

PROMOTING SUSTAINABILITY

Competition for the use of resources leads to unsustainability. Identification of opportunities and threats is a necessary prerequisite for reducing unsustainable competitiveness among resource users. Key elements of the analysis leading towards formulating a strategic framework for promoting sustainability should include the following considerations: How have we as Caribbean people dealt with the myriad opportunities inherent in this rich natural asset base? How have we dealt with the many threats, which pose a real danger to the region's natural resource capital, indeed, with a strong potential for irreversible loss?

Any framework for sustainability with respect to the use of the Caribbean's natural wealth must encapsulate the following principles targeted towards achieving sustainability:

- the precautionary principle
- the polluter pays principle
- ecosystem carrying capacity
- a commitment to the monetisation of natural capital values

The Caribbean development agenda still focuses heavily on traditional developmental goals. National assets are used principally to:

- promote economic growth
- provide maximum employment
- balance foreign trade
- achieve currency and price stability.

Natural resources are used as raw materials to achieve these goals. Maintenance of the environment has been of secondary value to all of this and people have been used mainly as tools.

A CONCEPT OF ENVIRONMENT AND DEVELOPMENT – BUILDING ON THE RIO AGENDA

The environment is integral to the overall process of development. It includes the relationship that exists between people and natural resources. Environmental change is not only the product of natural events, but also results from the application of development models, practices and lifestyles. Any modification of the physical and biological environment has important socio-economic consequences that affect the quality of life of people and other living resources of a country.

A strategy that promotes sustainability as an overall development framework will seek to integrate economic, social, demographic and environmental considerations into mainstream national policies at every stage of; policy identification, policy design, implementation, monitoring and evaluation. Involvement of, and participation by, people and their range of institutions must be the central element of the transformation process towards sustainable living.

SUSTAINABILITY FOR WHOM?

The United Nations Development Programme (UNDP) advocates sustainable human development. It promotes the concept of inseparable linkages between social, economic and environmental conditions. Thus, sustainable human development represents development efforts that are sustainable environmentally, economically, socially, culturally and politically. Development must be people-centered i.e. it must invest in the development of people, include participation by people and promote equal access to basic needs. It should be noted that:

- Development at the expense of economic growth leads to falling production and income.
- Development at the expense of the environment leads to environmental degradation.
- Development at the expense of social equity leads to crime, inequalities and social decay.

BUILDING NATIONAL CONSENSUS FOR SUSTAINABLE DEVELOPMENT

National consensus for sustainable development can be achieved by:

- Fostering participation by people
- Providing information for people
- Sponsoring national ownership of the development process
- Promoting a sense of ownership of national resources
- Promoting equity in the sense of equal access to basic needs
- Adapting local solutions to environmental problems
- Clarifying the following four key concepts of sustainable development in user-friendly terms
 - What?
 - Development for whom?
 - Where will development take place?
 - When will results be realized?

THE ISSUE OF INTER-SECTORAL COMPETITION FOR WATER AND THE IMPACT OF AGRO-TOURISM ON WATER-USE

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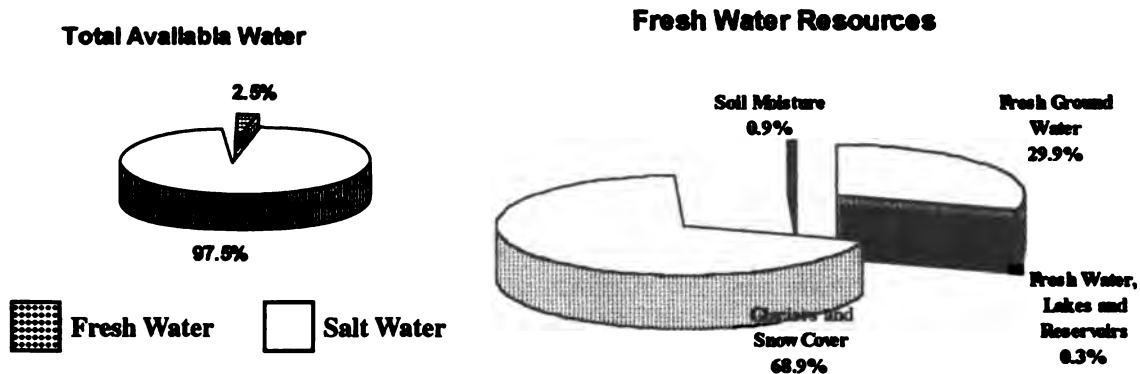
INTRODUCTION

Global situation

Availability of freshwater

Many years ago Samuel Taylor Coleridge wrote: “Water, water everywhere, nor any drop to drink”. The situation facing the ancient mariner sitting in his little boat in the middle of the ocean was no different from that facing people in many parts of the globe of this modernized world. Currently, there is an estimated 20% of world population that does not have access to safe drinking water and close to 50% lack sanitation. Figure 1 provides a partial explanation for this. In the first place there is little relationship between the volumes of water at global level and its use for human development, at least not with present day technologies.

Figure 1 Global availability of fresh water



Source: *Shidomanov (1999)*

As shown in the figure an estimated less than 3% of water is freshwater; the rest is salt water. A large amount of this fresh water is frozen in polar ice. In fact, as the figure further shows, available freshwater for human development amounts to less than 0.1% of the total available water.

The looming water crisis

Several studies and reports point to the impending physical and economic water crisis in many parts of the world (IUCN 2000). The conclusion of the United Nations University (1998) is that the most pressing problem of human survival, development and welfare is the planet's stressed water resources. Growing water scarcity is now a major impediment to some of the world's most urgent development objectives: improved food production, thriving ecosystems, healthy and socially stable societies.

The projected water scarcity which many countries could be experiencing within the next 24 years has been estimated by the International Water Management Institute (<http://www.cgiar.org/iwmi/home/wsmmap.htm>) . For some countries water concerns will be the most important issue, long before the middle of this century.

Water scarcity was not spoken about 50 years ago, except among a few countries. Today there are 26 countries that suffer these experiences. There are 230 million people, mostly across Africa and the Near East, living in situations where water availability for all purposes is less than 1,000 cubic metres, per person, per year. By definition these are already water-scarce countries. Water availability per person is falling rapidly. It is estimated that another 40 countries will join this group by 2025. High population growth, economic developments, better housing and health have put heavy pressure on available water resources in every corner of the globe. This rapid growth in the numbers of people faced with water scarcity is reason for concern

The impacts of the pressures cited above are manifested in a number of ways. In some cases population growth has simply outstripped availability of water. In addition, in many parts of the world rapid industrialization and urbanization are producing volumes of effluent wastewater that eventually reach freshwater resources. As a result deterioration in freshwater quality continues to reduce the volumes of water available to satisfy human development needs.

Agricultural practices are also contributing to reduced quality and quantity of freshwater. Irrigation practices are causing waterlogging and salinization, and systems are inefficient in the use of water. Drainage of wetlands, deforestation and loss of biodiversity are also attributed to agricultural practices. The driving force is the requirement to satisfy a growing demand to balance food production with rates of population growth at a global level, as well as to satisfy national food security. Currently an estimated 70% of the total freshwater in the world is used to provide goods and services from agriculture. Yet the amount of water available per person for agriculture has fallen from 20,000 cubic metres a year, to 5,000 cubic metres a year in the last 50 years.

Institutional arrangements

Reports indicate institutional weaknesses in water management at the global level. The reason given is that too many international and regional organizations, including several UN organizations, share responsibilities for water management. Often the objectives and consequent actions are not sufficiently complementary and are even sometimes conflicting.

The level of fragmentation is multiplied several hundreds of times over at national levels. At that level there is competition and conflicts among users within countries and between countries which these existing arrangements seem unable to solve in a timely manner. There is, therefore, an urgent need for institutional policies strategies and legal frameworks to be harmonized and coordinated between regions and nations, especially where there are shared water resources within regions or between countries.

Regional situation

Concerns about freshwater resources in the Caribbean reflect the global situation. The region is well endowed with freshwater resources. However water is unevenly distributed in time and location and many of the countries experience water shortages at one time or another. There are concerns about sustainability as current and projected rates of economic development to satisfy human development and levels of consumption of water are not consistent.

High levels of pollution from agriculture and industry together with poor sanitation have resulted in reduced quality of freshwater and are proving harmful to marine biodiversity. Important freshwater ecosystems such as wetlands and small rivers are disappearing.

Notwithstanding the above, the UN Decade for Water in the 1980s did motivate Caribbean governments to commit to the attainment of water quality and accessible targets for water for their people. Many of the targets set by countries to provide water services to their people on a sustainable basis have been achieved and even exceeded in some cases. Jamaica has made significant progress in this area and to lesser extents so have Barbados and Trinidad and Tobago.

However, currently the region is being hard-pressed to maintain the coverage and quality standards set in face of increased demand induced by high rates of population growth and the need to sustain adequate annual rates of economic growth. Rapid development in urban areas, improved sanitation and health practices in rural areas, persistent growth in tourism and in industrialization in the more developed economies of the region, have significantly increased the demand on water resources. In a few countries indiscriminate use of forest resources on protected areas of the watersheds have resulted in reduced water yields as well as significant changes in rainfall patterns, serious droughts and critical shortages of water over long periods.

There is little or no integration of policies and programmes for development of water resources management. At country level, several institutions, sometimes as many as 23, share responsibilities for water. In such cases several different pieces of legislation as well as different interests influence these bodies. Institutional related problems include deterioration and malfunction of municipal supply and sewage treatment structure, poor management of industrial and toxic wastes and their effect on water resources, poor maintenance and weak attempts at rehabilitation of irrigation distribution systems and poor land-use management. These factors combine to create fragmented national policy frameworks for water resources management in most of the countries.

INTER-SECTORAL WATER AND ITS CHARACTERISTICS IN THE REGION

The issue of inter-sectoral competition for freshwater in the region is real, even in countries such as Dominica, Guyana, Jamaica and the Bahamas where there appears to be an abundance of freshwater water whether as groundwater or freshwater. Inability to store water and pollution of groundwater and surface water creates scarcity and sectors compete for water. All sectors are affected to varying degrees. Competition for water manifests itself in disruption in water supplies to households, poor access or no access to water for irrigation, disruptions in water for industry and for recreation including tourism.

An understanding of water resources setting in the region and the issues in water resources management will provide some appreciation of the characteristics of water used and the prevailing conditions that influence capacity of users to compete.

Water resources setting in the region

Rainfall is the sole source of water, yielding the three basic water resource types: direct rain, surface water and groundwater. In the Bahamas, Barbados and Antigua, desalination of seawater is used to supplement the supply. At least two other countries are considering this route.

Table 1, prepared from country analyses of freshwater resources conducted in 1999, reflects the scarcity of country data on water resources, and on demand and supply for planned development, in the leading sectors agriculture and tourism. Apart from Jamaica and Barbados no other country has completed a full assessment of its water resources. Jamaica has the most complete assessment with an inventory of water availability, present and projected use.

Table 1 Status of water resources for Caribbean states

Island State	Water Availability Mcm/yr.		Water Supply Mcm/yr.		Future Use Mcm/yr.	Desal. Plants	Comments
	GW	SW	GW	SW			
St. Kitts	6.63	3.32	5.0		8.3	-	High demand in tourist season. No irrigation.
Nevis	3.02		1.82		2.7	-	Tourism expansion
Grenada	1.7	8 – 11.6	0.8	8.0	-	2	Livestock watering sacrificed during dry season.
St. Vincent	N/A	95 est. (1971)	N/A	N/A	-	-	Rainwater harvesting common. Hotels use rain and Desal. Irrigation schemes planned.
Antigua & Barbuda	4.6		4.6		5.2 (2010)	2	Rainwater harvesting by law UFW high 40%.
Dominica	-	26	-	>16	N/A	-	Exports water. Irrigation planned.
Haiti	0.13		0.013		0.22	-	
St. Lucia	N/A	N/A	-	9	15 (2025)	-	Tourism expansion planned.
Suriname	N/A	N/A	-	3153	-	-	Over 85% for irrigation of rice.
Belize	N/A	N/A	-	3.1	-	-	Supply for citrus and banana irrigation. No data on domestic supply.
Bahamas	696				-	Several	GW, Desal and Barging.
Guyana	2355 – 11775		65		-	-	Quality constraints on use.
Barbados	76	6.3	> 76	>6.3	-	1	1 Mcm/yr available from the recycling of wastewater.
Jamaica	3419	666	850	76	1684 (2015)	-	Irrigation use to increase.

(GW-ground water; SW- surface water; Mcm/yr.- Million cubic metres per year; Desal.- desalination;UFW- unaccounted for water; N/A- data not available)

Source: *A Synthesis of Country Reports on Water Resources Management in the Caribbean. Inter-American Institute for Cooperation on Agriculture, 1999*

Although incomplete, the data provide sufficient information on the region to indicate that:

- in general, rainfall is insufficient to replenish groundwater and surface water
- the majority of the countries are experiencing or approaching conditions of water stress as current estimated demand, equals or exceeds maximum annual renewable freshwater resources
- planned developments in tourism and agriculture exceed sustainable levels of consumption in some of the countries, while in many the status is unknown.

In two of the countries annual per capita freshwater availability falls far below the 1,000 cubic metre mark commonly used to measure water scarcity. In the Bahamas and Jamaica there is no net shortage of groundwater. It should be noted however that in both countries there are disruptions in household water. This is particularly notable in the Kingston metropolitan area in Jamaica. In many of the countries the dry season yields of streams decline significantly such that water for economic sectors is sacrificed at the expense of meeting the domestic demands

Major issues in water resources management

Using the same 1999 study the major issues in water resources management emerged as:

- Poor inventory of water resources and lack of capability to fully exploit all water sources.
- Inadequate policy and institutional framework to achieve integration in planning for water resources management.
- Planned development and consumption of water resources is not sustainable or not consistent.
- Water supply, irrigation and sanitation services are inadequate.
- Alarming freshwater pollution due mainly to insufficient attention given to the interaction between freshwater, coastal water and ground water.
- Lack of awareness building among community groups, stakeholders, decision-makers, non-governmental organizations and women.
- Overall poor appreciation for the relationships between freshwater and related ecosystems and implications for sustainable welfare.

Implications for sector performance

Figure 2 shows the relationships between sources of water, users of water by sectors and some identified needs for improved efficiencies. This kind of distinction in water use is important since it allows differentiation of the forms of water that can be used and where priority must be given to purity. Health or household water requires purity in quality and equity in allocation. The gender dimension is important primarily in the allocation and use of household water. All other sectors can use various mixes of pure water and recycled or grey water. Note however that this sector-oriented approach should be used to provide inputs to planning for sustainable use of freshwater only. It does not completely satisfy the requirements for the much needed integrated approach to water resources management.

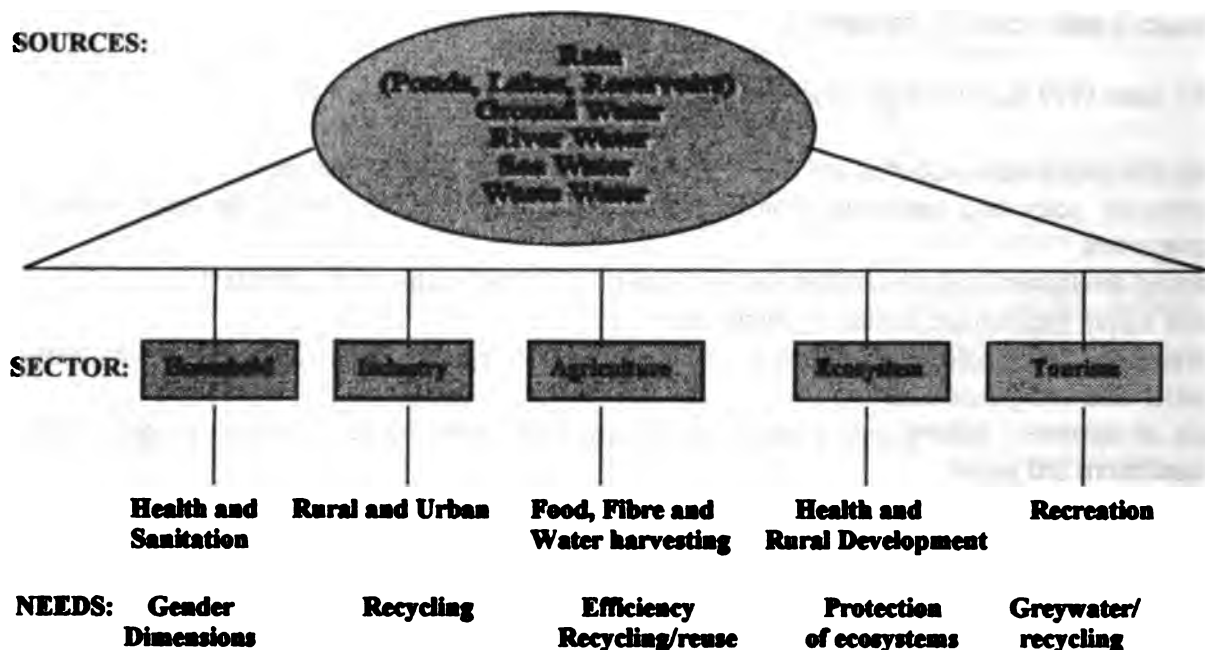
The current status of the impact of freshwater status in the region on the sectors is as follows:

- **Agriculture:** Except for Jamaica, there is no allocation of water for agriculture in any of the countries. In the case of Jamaica, country agricultural needs for water already exceed supply by 73 Mm³/yr in 1999. It is expected that demand will increase twofold by 2015. By then total planned resource utilization will be 42% of which agriculture will require 80% of this amount. This is close to global estimates as seen earlier. It could be assumed that when all the countries have done their assessments, agriculture will emerge the largest user of water in the region. This will signify serious implications for sustainability of supply if current plans for irrigation are implemented.
- **Household water:** Access to safe drinking water varies in the countries and between the countries. In some countries householders still travel more than 500 yards which is the maximum set by international standards to

Agro-tourism – a sustainable approach to economic growth

fetch water. Deterioration in water quality further reduces availability of drinking water. Although highest priority is given to household water, the high social cost in the delivery of rural water is a major constraint. In the best cases less than 40% of rural people have access to household water and many households still use untreated river water.

Figure 2 Water sources and sectoral characteristics



Source: Adapted from Proposal for Integrated Water Resources Management for the Caribbean. Second Joint Meeting of the Special Committees for the Protection and Conservation of the Environment and the Caribbean Sea and Natural Resources.

- Tourism:** Water is the most critical input in the tourism industry, although there is no special allocation for water in any of the countries. With the bulk of visitors arriving during the dry season, water requirements are highest when volumes are lowest. It is not unknown for rural districts on the outskirts of resorts to lose household water during these periods. In Jamaica it is estimated that current requirements for potable water is 10 times that of potable water for the residents, while in the Bahamas potable water requirement is three to five times higher than the national average for residents. For other purposes some countries such as the Bahamas, use water in other forms; seawater in high volume air conditioning and marine theme parks and grey water for irrigation of golf courses.

The regional shift to policy that promotes development of the tourism industry means that water demand by the sector will increase significantly. In Barbados projections using current development plans indicate demand will be five times that of present. Many other countries such as St. Lucia, Dominica and St. Kitts Nevis are increasing the number of hotel rooms. Missing from the information gathered is the impact of the cruise ship industry on potable water requirements, despite the tremendous growth in cruise passenger arrivals especially in the smaller island states. In 1998 the Eastern Caribbean States received 42% of total arrivals to the Caribbean.

- **Industry:** Water for industry receives second ranking after household water in terms of priority in nearly all the countries. To obtain reliable supplies most industries pay a much higher price for water. In many of the countries industry is given permits to develop wells and desalination systems as well as recycling plants. It should be noted however that the application of higher valuation and the ability to finance wells does not reduce the pressure on freshwater resources. On the other hand, this capacity to enhance competition for water could increase pressures on the resource base if not properly managed.
- **Ecosystem:** Water for the ecosystem was not a part of any of the analyses conducted. In fact it does not appear in any of the country plans for water management and conservation of the natural resource base. Up until the late 1990s no consideration was given to the provision for ecosystem water even in international forum. Conservation of natural resources is articulated in most public awareness programmes as using water efficiently.

Making water available to the ecosystem functioning means planning for water use after priority has been given to water for ecosystems and for basic human needs. Together this is a reserve that has a priority over all other water needs. Conservation is only effective when the practices are governed by ecosystem requirements for water. Part of the problem of dealing with the issue of water for the ecosystem is that there is very little information on what these levels are and how to measure where we are. This is not a Caribbean deficiency, the World Water Vision report on Water for Nature (2000), clearly recognizes this major constraint as critical to the downward spiral of ecosystems degradation now being experienced in many countries.

AGRO-TOURISM AND IMPLICATIONS FOR WATER USE

Dimensions of agro-tourism

According to Weaver (1998), agro-tourism is the idea of an agricultural region as a tourist destination. It is multifaceted, impacting on many sectors (agriculture, tourism, health and safety, water) and many aspects of human development (rural livelihoods, culture and recreation). In the context of the Caribbean, a further dimension to agro-tourism is the heavy dependence on mass tourism to sustain visitorship levels to the communities and farms.

In its narrowest sense, agro-tourism involves visiting a location with an agricultural base: crop farming, ranching, plantations, botanical gardens, herb gardens, aquaculture operations, and other similar activities. It includes guided farm tours, cultural practices and the production of traditional crafts. Overnight stays are common with visitors staying at the farmhouse or participating in home stays with host families. Agricultural communities in areas that also offer attractions such as beachfront, hiking and biking or unique geological features have an added advantage.

Value-added operations such as agro-processing are often part of the operation, not only because of the interest they generate but because they are important economic options. Adding to this is the potential to develop new markets for agricultural communities as tourists exposed to indigenous plants and foods on their visit are more likely to create a demand for them when they return home (OAS, 1984). In this regard a reputation for growing a special fruit, cut flower, or vegetable is an asset.

On the basis of the above a broader definition for agro-tourism would suggest a framework for integrating all the resources of an agricultural community or set of agricultural communities (micro-region) in planning the development of the community or micro-region. This provides a focused approach to integrating resource use for long-term prosperity of agricultural communities.

Water-use relations in agro-tourism

Agro-tourism is nature-based and therefore relies heavily on the variation in natural ecosystems. Water in ecosystems is critical to the integrity of those natural ecosystems on which agro-tourism depends: productive soil, biodiversity in plants and animals, forest materials for craft, habitats for herbs, animals and plants which support traditional practices, and just plain greenery. In the context of agro-tourism water use must assume the broader approach of provision for ecosystem water and rural water.

Ecosystem considerations

In the case of agro-tourism the significance of ecosystem functions takes on added importance because agro-tourism is first and foremost nature-based. The agro-tourist is attracted by the innovative use of the diversity of agro-ecosystems, to support highly productive and environmentally friendly economic ventures. The continued integrity of these agro-ecosystems is directly related to the capacity of natural resource base, in particular freshwater and related ecosystems functioning to provide goods and services. The range of functions includes production, regulation, habitat and information, all of which in some way benefit agro-tourism destinations. Rivers and coastal marine systems of the region provide valuable fishing grounds for recreation or food; upper catchment ecosystems and wetlands regulate water quantity and quality for agricultural production and for health. They also offer the added products of scenic hikes and tours. The habitats ecosystems provide for the diversity in fish, birds, and other organisms can be worked into the agro-tourism product. The diversity in nature also provides information for motivation and inspiration for human culture.

Planning for water for ecosystem functioning must take priority together with planning for household in order to have sustainable agro-tourism. All other allocations for producing the goods and services from the communities, i.e. economic development of the community, are consequent upon this reserve. What is foreseen is solidarity within communities in planning for the economic use of natural resources in balance with the integrity of the ecosystems. More than often the freshwater ecosystems are central to natural resources planning. Overall it assumes communities are receiving the benefits of education and public awareness programmes to enable the effective participation of all who show an interest in the process.

Rural water

Under the present system water for agro-tourism would fall under rural water allocations. By definition rural water is water for food, fibre, employment and drinking. The integrated approach to the use of rural resource lends itself to sustainable water. Economic returns are not sacrificed for quality of use since the agro-tourism concept encourages the mix of activities that add value to traditional rural products. In this regard a higher valuation can also be placed on rural water. Agro-tourism can therefore be a solid base for sustainable rural economic growth. This could change the current status of rural water as a public good, make provision of rural water cheaper to the state, and eventually increase access by rural people to water. This means better water supply and sanitation and higher quality services in rural areas. With appropriate pricing for water, a more enterprising approach to agriculture can be assumed. Higher levels of agricultural productivity through improved irrigation systems and use of better quality planting material can result.

The social and technological shifts in communities could increase demand for better quality and higher volumes of freshwater water. On the positive side rural water has now moved towards acceptance as a commodity by users and less a public good, thereby reducing the burden of high social cost to the state.

The potential for enhanced competitiveness achieved by delivering quality instead of quantity demonstrated through the agro-tourism concept could provide valuable information in development planning for long-term prosperity and for planning that does not compromise the ability of future generations to meet their own needs.

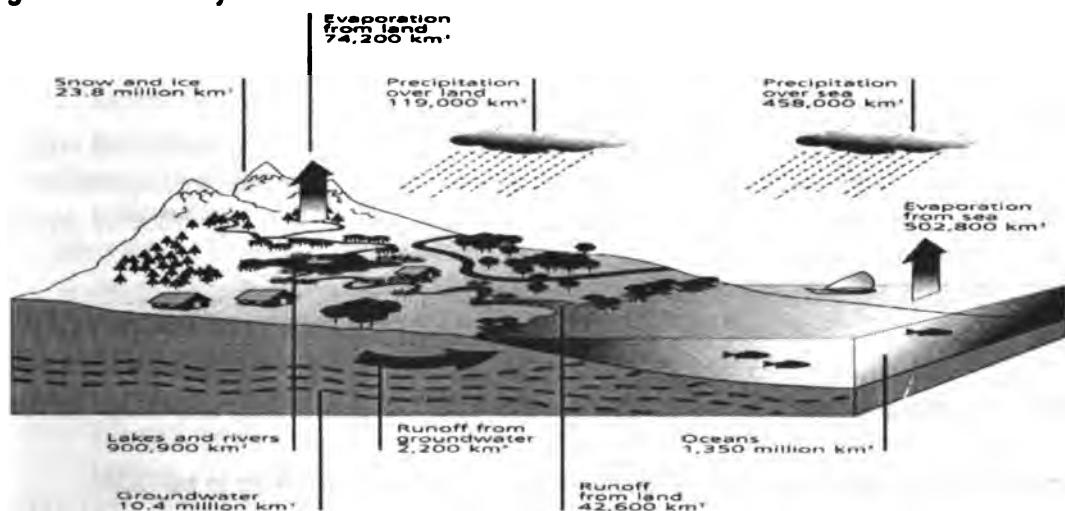
SUGGESTED ACTIONS TO ACHIEVE BALANCE BETWEEN DEVELOPMENT IMPERATIVES AND SUSTAINABLE FRESHWATER SYSTEMS

It is clear that water resource management should adopt an integrated approach that treats the water resource as an integral part of ecosystems and a limited natural resource whose quality and quantity determines the nature of its use for development.

The interdependency of water cycle elements and processes (rainfall, evaporation, transpiration, soil moisture, surface and groundwater and coastal and marine waters) further suggests that water resources be managed within their basic hydrological units: the watershed or basin. In the context of small island systems of the region preference should be given to the watershed. This approach will also accommodate the participation of communities, which is now fully accepted as integral to successful management of water resources.

As shown in Figure 3 the principle of watershed management approach allows for (a) the protection of water yields including ground water and surface water, (b) the safeguarding of water quality (c) proper management of land, freshwater and marine resources in an integrated manner and (d) monitoring of ecosystem functioning thereby maintaining key habitat characteristics upstream, down stream and in coastal zones.

Figure 3 The water cycle



Source: Shikdomanov (1999)

Some actions foreseen to protect and maintain the functioning of watershed ecosystems

General

- Promotion of integrated water resources management policy that makes provision for policy that supports long term water master plans which include leaving the required amount of water within ecosystems while

achieving equitable allocation of water supplied. This means that it will be necessary cross-train engineers, environmentalists, and managers, among others, to ensure that they all share a knowledge base necessary for planning for integrated water resource management.

- Management of surface water and groundwater to ensure that water resources in terms of quantity and quality do not become a constraint in social and economic development by impacting negatively on ecosystem sustainability. This would require that countries complete their assessment of water resources as well as put in place structures to control pollution from agriculture, industry and, in some cases, household use.
- Planning based on proper monitoring of freshwater ecosystem functioning. This would require investments in training, in developing tools for evaluation and the necessary equipment required for reliable data gathering and information generation.
- Shift national priorities from water resources development to restoration of existing resources and enhancement of water quality.
- Protection and restoration of critical habitats and biodiversity.

Imposition of proper valuation of water but with adequate provision for the right to safe drinking water and the attendant social cost. In this regard economic evaluations should be linked to compliance with environmental assessments.

- Investment in clean technologies, reduction of wastewater and promoting water reuse and recycling for industry, agriculture and recreational facilities where clean water is not essential.
- Decentralization of institutions as appropriate and empowerment of communities to participate actively in water resources management.

Actions with direct benefits to agro-tourism

- Integrate agro-tourism development with rural development goals.
- Adopt a holistic approach to water management for food production by integrating rainfed and irrigated agriculture. Promote and develop mixes of traditional cropping systems and modernized approaches to food production in order to reduce runoff and erosion. Introduce and develop high efficiency dry-land agriculture.
- Develop indicators to measure change in stream flows, and changes in plant and animal population in surrounding habitats.
- Public education and awareness campaigns in order to build capacities in communities to protect ecosystems, understand carrying capacities and dangers such as over-fishing, and other intensive practices.
- Empowerment of women and youth to protect and monitor natural resources in order to safeguard freshwater ecosystems.
- Create opportunities to mix traditional knowledge with modern technology and new information in order to encourage ownership by communities of resource management practices.
- Encourage networks to promote the exchange of information and knowledge on freshwater ecosystems among communities.

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World Water Vision <http://www.watervision.org>

IUCN Vision for Water and Nature <http://www.waterandnature.org>

World Water Vision: Water for food and rural development <http://www.waterforfood.org>

THE ROLE OF THE ENVIRONMENT IN BROKERING AGRO-TOURISM LINKAGES IN TOBAGO

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INTRODUCTION

Conservation of the natural environment has historically been a critical factor in shaping the economic development of Tobago. The establishment of the Tobago Forest Reserve in the eighteenth century marked the recognition of the principle that conservation of the natural environment is crucial to the long-term development and survival of the island. It is interesting to note that the decision to establish the forest reserve met with intense opposition and hostility on the part of the European colonists at that time. Today however, this reserve has become a major asset to Tobago's tourism sector. The distribution of natural resources and the need to conserve these resources have been highly influential in determining the agricultural systems that have developed in the past and the tourism systems that are presently evolving.

DEFINING AGRO-TOURISM

The discussion of the concept of 'agro-tourism' and its application in the development of Tobago is not new. The Democratic Action Congress (1980) in its 'Tobago Development Plan (1981–1990)' identified the need for the promotion of linkages between tourism and agriculture. More specifically, the plan proposed the development of new community farms and new communities on state-owned lands based on a programme of interlocking housing, agriculture, tourism, agro-processing and fish processing. The plan identified the Studley Park area as being ideal for this type of development.

Manswell (1994) presenting an analysis of the agro-tourism linkage within the context of sustainable agriculture, examined some of the impacts of tourism expansion in southwestern Tobago including the negative consequences for agricultural production. He argued that sustainable agricultural development is inextricably bound to sustainable tourism development and presented a strong case for the integrated management of tourism and agriculture.

Pemberton (1998), discussing an integrated tourism-agriculture strategy for Tobago, stated:

" A recent strategy emerging for agriculture in Tobago is a special form of eco-tourism, which may be termed agro-tourism. The system that is being advocated here is the establishment of agricultural enterprises in close proximity to and linked to tourism plant (hotels, restaurants, etc.). The tourism plant would provide a direct market for the agricultural products and the agricultural enterprise would provide a point of interest for the tourists, who may actually take part in certain minor aspects of the agricultural production.

The agricultural enterprise can also be a promotional tool for the tourist plant that may be able to advertise that at least some its food comes from its own garden and may be 'organically grown' providing further appeal to eco-conscious tourists. This integrated approach has been advocated for example for the larger abandoned estates in Tobago, which may be converted to agro-tourism, utilizing the model just described. Certain areas on the estates could be reserved in their 'natural state' as ecological sites, which could provide opportunities for nature walks, birdwatching, and other nature and environment loving pursuits. Then other areas could be re-developed for

agricultural enterprises. The enterprises chosen would be those most in demand by the tourism plant and those, which are ecologically suited for the designated areas."

From the foregoing one can clearly see that over the last two decades a vision for the integrated development of tourism and agriculture in Tobago has been slowly taking form, In seeking to examine the role of the environment in brokering agro-tourism linkages in Tobago, this paper will be guided by the strategy so clearly identified by Pemberton.

THE POLICY FRAMEWORK

Agriculture, tourism and environmental management

Four policy frameworks with implications for agro-tourism development in Tobago exist at present. These are:

- The Trinidad and Tobago Tourism Master Plan (TIDCO1994)
- The National Medium Term Policy Framework (1998–2000) (Trinidad & Tobago Ministry of Finance 1997)
- The Tobago Development Plan. (PRDI, Tobago House of Assembly 1998)
- The National Environmental Policy (EMA 1998)

In the area of environmental conservation, the Environmental Management Act (1995 and 2000) has established a framework for management of the natural environment. The Tobago Development Plan also addresses some issues of environmental management.

The Tourism Master Plan

The Trinidad and Tobago Tourism Master Plan (TIDCO 1994) proposes for tourism development in Tobago a concept that has six basic components. These are:

- i. A Scarborough tourism product emphasizing historic and gardens attractions, shopping and downtown and waterfront relaxation and entertainment.
- ii. A southwest anchor of resorts emphasizing sun, sea and sand with access to a diversity of experiences (total 1800 rooms).
- iii. A northeast anchor of a specialty resort development area with emphasis on smaller scale resort development (total 400 rooms).
- iv. A scenic Atlantic corridor of limited small-scale tourism related development (total 350 rooms).
- v. A scenic Caribbean corridor of limited small-scale tourism related development (total 250 rooms).
- vi. A national park system that designates the entire Main Ridge for a national park and the Tobago as a national marine park.

The Tourism Master Plan identifies several potential negative environmental impacts of tourism development and proposes a number of development guidelines. It advocates a detailed land-use planning project for the areas in which tourism development is proposed but it is silent on the issues of the loss of arable land and specific linkages to the agricultural sector.

Prime Minister Basdeo Panday stated in November 1999 that his government has adopted the Tourism Master Plan for implementation.

The National Medium Term Policy Framework (1998–2000)

The National Medium Term Policy Framework (1998–2000) addresses both the tourism and agricultural sectors. For tourism, the policies are to provide incentives for hotel development and to give added impetus to tourism. Two strategies flow from these policies. The first is the implementation of a new Tourism Development Bill to extend fiscal incentives to approved tourism projects. The second is a review of the Tourism Master Plan and the development of a strategic plan. The Tourism Development Bill is now before the national parliament. If passed it will replace the Tourism Development Act of 1960 (amended in 1974 and 1977). The new bill states that projects seeking to access the fiscal incentives provided must show linkages to the agricultural sector.

For agriculture, the policies are:

- Increase employment and growth in the sector
- Promote national food and nutrition security
- Promote sustainable management of marine fisheries, aquaculture and forestry
- Facilitate an increase in foreign exchange earnings from traditional and non-traditional exports
- Promote social stability and development through the economic empowerment of rural communities
- Address issues specific to Tobago.

The principal strategies are:

- Increase avenues for access to agricultural credit
- Provide institutional support to farmers, fishermen and aquaculturists in the form of policy review, training and institutional strengthening of the ministry
- Continue the development of the agro-industry sector through development of linkages with the tourism and input supply sectors
- The evaluation of commodities with agro-industrial potential
- The provision of agricultural incentives
- Develop linkages between local farmers and the School Nutrition Programme
- Continue to expand preventative, regulatory and curative animal health programmes to reduce morbidity, with emphasis on food production
- Continue to develop and extend farm advisory services
- Provision of institutional and infrastructural support to fisher-folk and aquaculturists
- Establish and develop links with national and international agencies for necessary financial and technical support
- Manage and conserve natural forest and wildlife for protection and production purposes
- Continue the development and maintenance of a National Parks system
- Continue management of all national wetlands inclusive of the Nariva Swamp
- Provide appropriate incentives for export agriculture of both traditional and non-traditional products
- Promote private investment in the sector
- Control and rationalize squatting
- Continue the development of a comprehensive national land information system
- Continue state land distribution/regularization programme
- Liaise with the Tobago House of Assembly to implement policies and plans for agriculture in Tobago.

The Tobago Development Plan

The Tobago Development Plan (PRDI 1998) proposes a strategy for agro-tourism development. The elements of this strategy include the following:

- the utilization of estates for a mix of agricultural production, natural history appreciation, history appreciation, and physical accommodation in an environmentally friendly manner
- a community based agro-tourism development programme
- steep slopes of the north coast and Windward will be utilized for agro-forestry development
- incentives for agro-tourism investments will be improved
- a land information system
- measures to encourage soil and water conservation
- a research, development and technology transfer programme aimed at identifying profitable commodities, preserving biodiversity, developing suitable production systems and identification of forest resources
- a land reform programme
- financial and institutional support to existing agro-industrial activity.

The approach taken for agro-tourism planning in the Tobago Development Plan is that of treating agro-tourism as a subsector of tourism which is itself placed within a strategic cluster of tourism, entertainment and hospitality.

The Tobago Development Plan also addresses the issue of environmental management for Tobago. In terms of environmental management, the Plan has rejected the management strategy of attempting to address the problems by sectors on the grounds of inefficient use of human and material resources. Instead, it proposes a strategy of the entire island being declared an environmentally sensitive area or national park or protected area with permits being required for most activities to take place. This strategy will allow for full control over all activities on or around the island. As part of this strategy, specific policies will be adopted for the following:

- Air pollution
- Noise pollution
- Preservation and development of fauna and flora
- Wetlands
- Waste management
- Land use water and watershed management
- Aesthetics of signs and posted ads
- Coastal zone management.

The plan proposes that discussions be initiated with the Environmental Management Authority (EMA) to improve institutional coordination of environmental management and implement a fuller environmental management programme for Tobago.

The National Environmental Policy

The Environmental Management Act of 1995 (amended 2000) established the EMA as the body with responsibility for the management of natural resources of the country. The EMA in 1998 developed a comprehensive National Environmental Policy (NEP) that was approved by Cabinet and laid in Parliament. It is now official policy. The NEP has five basic principles. These are:

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- Respect and care for the community of life
- Improve the quality of life
- Conserve the vitality and diversity of Trinidad and Tobago's natural environment
- Change personal attitudes and practices
- Empower communities to care for their own environments.

Policy goals and objectives with implications for agro-tourism development include:

- Designation and protection of environmentally sensitive areas;
- Designation and protection of environmentally sensitive species;
- Maintain the total area of land zoned for forest reserve and prevent its conversion into non-forest uses;
- Pursue a policy of no net loss of wetlands in developmental projects carried out by the state;
- Discourage dredging filling and other forms of development in wetland areas;
- Protect wetlands from pollution;
- Manage the water resources of the country for long-term sustainability, recognizing the need for both human use and the health of aquatic ecosystems;
- Develop measures to ensure that waters in sensitive areas are protected in a pristine state;
- Establish ambient water quality guidelines and standards and limits on the concentration of substances in point source discharges
- Encourage the use of environmentally friendly energy sources.

In terms of the management and regulation of specific impacts of human activity, the policy identifies specific principles that will be applied. These include:

- The polluter pays principle
- The precautionary principle
- Environmental impact assessment (EIA) and certificates of environmental clearance.

The EMA is already working to develop the specific regulations that it will be using to carry out its mandate. Several draft rules have submitted for public comment. These are:

- Environmentally sensitive areas rules
- Environmentally sensitive species rules
- Water pollution rules
- Certificate of environmental clearance rules.

Under the proposed certificate of environmental clearance rules, anyone proposing to engage in certain activities will be required to apply for a certificate of environmental clearance and conduct an environmental impact assessment before commencement of the activity. The EMA can refuse to issue a certificate. The NEP has identified broad categories of projects that may require environmental clearance. These include:

- Agriculture/horticulture
- Food and beverage industry
- Tourism and recreational development

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- Waste management
- Water and sewage systems.

THE EXISTING SITUATION IN TOBAGO AND THE ROLE OF ENVIRONMENTAL CONSERVATION IN BROKERING AGRO-TOURISM LINKAGES

The policies and strategies examined above indicate that a considerable amount of money, time and energy have been devoted over the past few years to planning for tourism and agricultural development and for environmental management. How will these policies and strategies influence agro-tourism development and what role can efforts to conserve the environment play in brokering agro-tourism linkages?

There are two possible approaches to the discussion of agro-tourism linkages. One approach is to look at linkages between the separate sectors of agriculture and tourism. The second is to treat agro-tourism as one sector and look at linkages with other sectors of the economy. Which approach should be used? This problem arises because of the variances between the policies at national level and those of the Tobago Development Plan. This paper will seek to address the issue of linkages from both perspectives.

Tobago now faces the reality of a boom in tourism development. The high demand for land and the resultant high prices, an increasing rate of applications for resort approval and the increase in the numbers of visitors illustrate the fact that tourism is growing at a fast rate. At the same time however, local agricultural production is declining. This fall in agricultural production is not a new phenomenon. The statistics over the last four decades have demonstrated a continuing trend of decline. Past attempts to arrest this decline have met with failure and the island now faces a situation in which the importation of food is increasing to satisfy the growing demand fueled by tourism development.

In the present thrust to develop both agriculture and tourism in Tobago, several problems arise. These include the following:

The alienation of arable land caused by tourism development

Ahmad (1994) estimated that approximately 17% of the land in Tobago can be considered flat enough for arable farming. Renwick (1994) estimated that 28% of arable land had been lost over the previous decade through conversion to tourism and other activities. Since then a significant amount of arable land, especially in southwest Tobago has been converted to built development including tourist resorts/plants or has been earmarked for future built development. These include:

- Lowlands Estate - 750 acres.
- Courland Estate - 350 acres
- Golden Grove Estate - 116 acres
- King's Bay Estate - 600 acres
- Belmont Estate - 233 acres
- Englishman's Bay Estate - 400 acres
- Little Englishman's Bay Estate - 390 acres
- Woodlands Estate - 400 acres
- Bacolet Estate - acreage unknown
- Bon Accord Estate - acreage unknown

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- Buccoo Estate - acreage unknown
- Hermitage Estate - acreage unknown.

The above estates are the larger parcels of land subject to physical development. Numerous smaller holdings have also experienced built development. The acreage given above for each estate represents the total land area and not the area subject to built development. In almost all the instances where detailed development proposals are available, some land has been set aside for nature reserves and in a few cases for agriculture. It is suspected that in some cases the provisions for nature reserve areas is a response to requirements from the Town and Country Planning Division or an attempt to capitalize on the growing demand for eco-tourism. The critical issue however is that in most instances, the flattest areas on these estates have been targeted for built development with less suitable areas being earmarked for nature reserves or agriculture. In addition, while specific and detailed proposals have been made for built development, the proposals for agricultural development have been either sketchy or non-existent. Some developers are pursuing a phased approach to seeking approval for development approval. After seeking and obtaining approval for a certain portions of estates, they then submit applications for additional portions.

The shift of intensive agricultural production to critical watersheds and the negative environmental impacts that can result.

As the availability of arable land for intensive (mechanized) agricultural production declines in the flatter coastal areas, agricultural activity in critical watershed areas is expected to increase if steps are taken to increase agricultural production. This problem has been identified in the 'Design of a watershed protection programme for the Courland catchment, Tobago, Draft Final Report' (WASA 1994). The report identified a trend of increasing agricultural activity in the lower Courland Valley resulting from the alienation of arable land in the Plymouth area and predicted negative impacts upon raw water quality at the Courland water treatment plant. The report also recommended a number of farming systems and models for the Courland catchment. All the recommended systems or models advocate zero or minimum tillage. Other negative impacts that can result from inappropriate agricultural practices in watersheds include flooding, sediment transfer and coral reef destruction.

The dilemma faced by some owners of large estates in seeking to benefit from the fiscal incentives for investment in tourism resort projects and at the same time wanting to conserve the available natural resources on their properties

Some owners of large estates with lands suited to intensive agricultural production but which estates are now non-productive are faced with the temptation to convert their holdings to tourism projects. The present investment climate for tourism is quite attractive and will improve if the Tourism Investment Bill (1999) gains parliamentary approval. After years of gaining little or no income from their holdings and having to pay yearly rates and taxes, it is a wonder that more of them did not already succumb to the pressures and jumped on the tourism bandwagon. Some of these owners have a genuine desire to engage in agriculture but too many factors are working against their investment in this activity. Compared to tourism, the incentives for investment in agriculture are limited.

The relative high capital costs and low economic returns of engaging in systems of agricultural production that will be most effective in reducing or preventing degradation of the natural environment

Agricultural production in Tobago is a costly business. Farmers in Tobago face a situation in which the inputs of tools and machinery, agro-chemicals, fertilizers and other materials are imported and are costly. The costs of capital

and labour (when available) are also high. The cost of acquiring land is prohibitive. On the other hand, the returns on investments are relatively low.

The solutions to these and other problems can result from linkages between agriculture and tourism that will allow maximum possible benefits at the lowest possible costs. The shorter term capital gains that can be gained from tourism investments can be balanced off against the longer term costs of sustainable agricultural production and in so doing achieve the benefit of conservation of the natural environment.

The conservation of the environment has a critical role to play in this situation. Recent developments have demonstrated that the demands for improved conservation have promoted linkages between tourism and other sectors. For example, ten years ago there were few firms engaged in the business of environmental consulting. Today, there are many. This has occurred partially because of the demand that environmental impact assessments should be mandatory for resort development proposals. Likewise, companies providing services in areas such as waste management and environment friendly maintenance are growing in response to conservation demands. These are examples of linkages that have developed between tourism and other sectors because of environmental concerns.

The continuing demand for increased environmental stewardship can foster the growth of linkages between agro-tourism and other sectors or between agriculture and tourism. As the negative environmental impacts of tourism development are highlighted, the need to develop solutions will increase and some solutions can be found in linkages. If for example, the issue of the loss of arable land is considered to be as critical as has been the case for wetlands, then the owners of estates wanting to develop resorts will be forced to conserve arable land and in seeking to optimize the use of this land they may have to engage in agricultural production. Another possibility is related to the growing concern about the disposal of wastewater in rivers and coastal waters. This concern is forcing resorts to seek alternative methods of disposal. At the same time, we are faced with the growing deficiency of water for crop production. One solution to these problems is to use wastewater for the irrigation of tree crops after the necessary treatment. A third possibility has to do with the growing international concerns about bio-engineered food products and the impacts of chemicals used in food production. The use of local, organically grown environment friendly products can be an effective marketing tool for the tourism sector.

Other possibilities exist. As international concerns about environmental degradation increase, Tobago can pursue strategies aimed at improving conservation and use these to gain competitive advantages.

A commitment to sustainable development can lead to the development of agro-tourism linkages in Tobago. This of necessity will require specific policies and investment incentives but most of all it requires the political will and a desire to succeed.

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THE IMPLICATIONS OF AN AGRO-TOURISM STRATEGY FOR MARINE RESOURCE MANAGEMENT: ISSUES AND SCOPE

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THE COASTAL AND MARINE ENVIRONMENT

The Republic of Trinidad and Tobago, like other Caribbean countries, is an archipelagic state. As signatories to the 1982 United Nations Convention on the Law of the Sea (UNCLOS III) many Caribbean countries claim their exclusive economic zones (EEZs) with a two-hundred mile sea limit. The resulting EEZ gives the country of Trinidad and Tobago for example, approximately fifteen times more sea space than land space. Trinidad and Tobago's main environmental component is without doubt the marine environment. The country sits on the continental shelf some eleven kilometres off the coast of South America; and is constantly influenced by approximately seventeen rivers systems ranging from the Brazilian Amazon in the southeast to the Venezuelan Orinoco in the southwest.

The advent of UNCLOS III gave coastal states authority to manage the fisheries and marine resources within their EEZs. Severe depletion of the world's fish stocks through over-fishing, coupled with degradation through pollution of the coastal and marine ecosystems/environment and habitat destruction due to developments in the coastal zone are being addressed at a number of international fora. These and a number of similar issues are also of importance to the Departments of Marine Resources and Fisheries in the Caribbean region, as they strive to carry out their multifaceted management functions. Many of the islands are small (e.g. Tobago, 116 mi²/300 km²) with a disproportionately larger coastline (70 miles/112 km) than land area. As a result the need to conserve coastal and marine systems to sustainably support the human population is crucial. Integrated coastal planning and management are therefore absolutely necessary to maintain the physical, ecological and socio-economic values and functions of these areas.

MARINE RESOURCES (TOBAGO)

These resources include: fisheries, coral reefs, seagrass beds, mangroves and other wetlands, seventy miles (112 km) of coastline, as well as, coastal and ocean waters. Fishing, an important, though, relatively underdeveloped industry in Tobago, is by far the main economic support for many coastal communities. Tobago has some 33 landing sites, 9 with fishing centres, 1,039 registered fishermen, 694 boats, including 10 multipurpose.

Tobago's fishermen target some 19 species of finfish and shellfish using 11 different methods. The main species include flying fish, dolphin-fish, sailfish, marlin, shark, wahoo, kingfish, barracuda, snapper, bonito, grouper and albacore. Fish are caught by a number of methods including: drifting, fish potting, banking, à la vive, tight line, rod and reel (recreational), long lining (palangue), monofilament (fillet) net, beach seining, trolling, spear-fishing. A large proportion of the fish caught is processed and marketed locally, regionally and internationally by ten fish processing plants.

Fishing is mainly artisanal and seasonal and is done using small open-deck vessels, which are seven to nine meters long and constructed from wood and fibreglass (pirogues and bumboats). Outboard engines propel them, 45–90 HP. Fishing is usually carried out without modern equipment, communication system or cold storage. In 1996 an estimated 182,706 kg was caught off Tobago. In 1998 fish processors purchased fish worth TT\$5 million from

Tobago fishermen. This was processed and sold for some TT\$12 million, of which 85% went to foreign countries amounting to US\$1,686,508.

In addition to the fisheries, Tobago has important marine ecosystems including reefs, seagrass beds and mangroves. The main reef ecosystems are located at Arnos Vale Bay, Buccoo/Pigeon Point, Culloden Bay, Flying Reef, La Guaira, Grouper Ground at Milford, Kariwak Reef at Milford, Ketchup Reef at Milford, Mt. Irvine Reef, Petit Trou, Speyside, Goat Island and Little Tobago. The reefs are characteristically fringing reef systems. Some (e.g. Buccoo) have complex ecosystems including reef, seagrass and mangrove. Reef resources are used by and for glass-bottom boats, wind surfers, snorkelers, jetskis, illegal fishers, fish landing, anchorage and boat fueling.

Impacts of surrounding development and resource use result in deterioration of water quality and the living resources. Coral diseases and bleaching have become concerns. Coral reefs, seagrass beds and lagoons function as protection for the shoreline, habitat for marine organisms, producers of sand, in the reduction of pollution (mangrove), as nursery for young fish, lobster and conch (in seagrass and mangrove), and as sources of recreation, livelihood and food.

THE AGRO-TOURISM STRATEGY

The Tobago Development Plan (1998) speaks of agro-tourism as an important strategy for the island. It mentions that a fundamental aspect of development strategy in Tobago is to stimulate activity downstream for agriculture as the basis of transformation of agriculture itself. Agro-tourism, it is convinced, provides the leading thrust in this direction. The Plan also submits that another leading thrust would be investment in the development of the local agro-industrial sector. The Plan points out that to fulfill the projected growth in consumption in the tourism sector, the agro-industry could be viewed as a vehicle to generate a competitive supply to satisfy the demand in Tobago's tourism sector. An agro-tourism product can best facilitate this linkage between the agro-industry and the tourism sector.

The linkage between the agricultural and tourism sectors is of significance for several reasons: firstly, the infrastructural costs of the agro-industrial project can be shared with the tourism project. Secondly, there can be economies of scope with respect to administrative costs; and, thirdly, marketing and other synergies will be created between both sectors by the proximity of the projects. Such linkages therefore, facilitate competitive advantage particularly in the area of pricing, with the investment base of each project reduced, the likelihood of each project being profitable is increased. The rapid growth of the tourism sector is keeping the local agro-industry challenged by continuously stimulating demand.

The most successful of the local agro-processing areas is fishing which has not only been able to supply the needs of the local market but has also been able to compete in foreign markets. This situation with regard to fishing is true not only in Tobago, but in many Caribbean islands. The agro-industry/agro-tourism combination is particularly suited to the developmental needs of the local communities. Increasingly, visitors, who are willing to savour local products, favour the more distant parts of the island. Increasingly also, the development of visitor accommodation in these areas work to create a viable market as demand increases not only through share increase in visitors, but also by extended stays.

Agro-tourism and marine resources and fisheries

The use of the marine environment, its fisheries, coral reefs, seagrass beds, mangroves and wetlands etc. in what is now referred to as an agro-tourism strategy is a new approach to tourism and agriculture in the Caribbean region.

Here it is hoped that agriculture (production, fisheries, and forestry) could benefit from the tourism boom being experienced in the region. The region has been experiencing growth in tourism, though the same cannot be said for agriculture. There are new hotels constructed. There are many cruises and yachts coming to the region. It is hoped that fish can be caught, processed and sold in the tourism sector. It is hoped that the recreational fishery, marine recreational sports, reef tours, fishing tours and other opportunities for employment and income generation will develop jointly between agriculture and tourism.

In considering such a strategy, with marine resources as a major player, it is indeed an opportunity to provide additional technical staff for the Departments (information, scientific), additional enforcement staff (Marine Park rangers and reef patrol) and administrative staff. Such a strategy requires effort to ensure improved water quality through tertiary sewage treatment, reduced siltation and freshwater runoff. New structures must be built to ensure good water quality and appropriate effluent standards. Interpretive centres need to be constructed in an agro-tourism strategy in these islands as an important public awareness mechanism, for revenue generation, and for sustainable resource use. A strategy of this nature requires much stakeholder involvement in the decision-making process and therefore a mechanism must be set up from early to ensure this.

Many countries of the Caribbean in considering agro-tourism have already developed, or are developing, a Management Plan, have taken steps to control illegal turtle fishing, and have commenced school awareness programmes. Many countries in the region participate in the Caribbean Marine Productivity project (CARICOMP) which monitors the reefs, seagrass beds and mangroves. Others have their own on-going reef management programmes, while some conduct stakeholder tradeoff analyses for use of the marine environment. There is also on-going research activities in conjunction with reputable institutions, such as like the University of the West Indies (UWI), the University of East Anglia (UEA), the Institute of Marine Affairs (IMA) and the United Nations Development Programme (UNDP) on issues like over-fishing, illegal fishing, economics and trade issues arising due to joint development in the same area (HACCP/ISO9000 considerations). Displacement of fishermen and traditional users due to tourism (hotel) development, water quality and reef walking must be jointly addressed by both the tourism and marine resources/fisheries people when considering the agro-tourism strategy.

CHALLENGES AND OPPORTUNITIES

Competition for marine/coastal areas to support the development of both the tourism and fisheries/marine resource sectors

Land-use and resource allocation conflicts do result in the coastal zone. Large-scale unplanned investments in tourism (hotels), port expansion and industrial facilities on Tobago's coastline are resulting in rapid land-use changes and conflicts. Much of these activities take place in the absence of any clear property rights or management. As a result, fisheries resources, coastal lands, beaches, mangroves, coral reefs and wetlands are depleted, encroached upon or overused. The introduction of many marine/water sport activities (essentially great agro-tourism opportunities) poses a challenge for fisheries and marine areas conservation and management.

Degradation of coastal ecosystem and depletion of fish stocks

Environmental/ecological/sociological impacts of hotel and other tourism infrastructure development on coastal marine resources are of concern. Land conversion, coupled with the extensions to coastal infrastructure, contributes to the degradation of coastal habitats. The mangrove forests, an important link in the primary and secondary productivity near shore, have been rapidly disappearing. The coral reefs close to the population centres of Bon Accord and Buccoo are showing signs of accelerated deterioration from sedimentation, other effluents, over-fishing, bleaching, reef walking and disease. Coastal erosion, flooding and shoreline instability are increasing.

Coastal areas are susceptible to natural hazards, the effects of which are often intensified by poor land-use practices. Deforestation, dredging and filling, poorly designed coastal structures and illegal sand mining often intensify the risks associated with coastal hazards. Poor land-use plans are seen in there being plans for large-scale construction projects for many places as well as the construction of private beaches by some hoteliers.

Fisheries in the Caribbean are known to be facing escalating problems, such as stock depletion, overcapitalization, plant closures, habitat degradation, non-compliance with management regulations, illegal practices and increasing competition between artisanal and industrial fleets. More than 80% of the commercially exploitable fish stocks in the southwest Atlantic and 40% in the southeast Pacific are fully fished, over-fished or depleted. The effects of fisheries by-catch on marine biodiversity and fisheries sustainability are presently of great concern.

Economic and trade issues

Economics and trade issues attend the development of both sectors jointly, especially in a small island space. This brings to mind the issue of HACCP certification for Tobago and the conflict of bathing beaches being used to land fish catches etc.

Dedining coastal water quality from land-based sources

Tobago, like many other Caribbean islands, suffers from the problem of having large volumes of domestic wastewater discharges, in addition to urban and agricultural runoffs, effluents from other coastal activities and other discharges that go into the coastal and marine environment. The sediments, nutrients, organic material and various contaminants which flow into the bays, lagoons and wetlands tend to settle or they dilute in the ocean water. In many bays the natural dilution capacity is exceeded and the situation is fast approaching the state of incurring public health hazards. Tobago also faces the problem of having numerous yachts and pleasure crafts adding pollutants to the water.

The economic dependence of rural, often poor, communities on coastal resources and lands is one of the major challenges of coastal management. Rural villages depend on heavily fished inshore fish stocks for subsistence. Over-fishing is therefore of concern. So too are the concerns of dumping in the bays of by-catch from seine fishing, fish guts, wastes, scales, oils, oil cans and derelict boats. In addition some fishermen build and live in unsightly structures on some beaches producing waste as well.

MANAGEMENT OF THE RESOURCES

The Fisheries and/or the Marine Parks Departments in the region have to be committed to the sustainable management and conservation of the resources for the benefit of the people of the islands. The objectives of marine resources and fisheries management by the Departments are consistent with a number of international laws and conventions. The objectives are:

- To develop and increase the potential of marine living resources to meet human nutritional needs, as well as social, economic, and development goals.
- To ensure that the fishing industry is integrated into the policy and decision-making process concerning fisheries and coastal zone management.

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- To take into account traditional knowledge and interests of local communities, small-scale artisanal fisheries and indigenous people in development and management programmes.
- To maintain or restore populations of marine species at levels that can produce the maximum sustainable yield as qualified by relevant environmental and economic factors, taking into consideration relationships among species.
- To promote the development and use of selective fishing gear and practices that minimize waste in the catch of target species and minimize by-catch of non-target species
- To ensure effective monitoring and enforcement with respect to fishing activities.
- To protect and restore endangered marine species.
- To preserve rare or fragile ecosystems, as well as habitats and other ecologically sensitive areas, especially coral reef ecosystems, estuaries, mangroves, seagrass beds, wetlands and other spawning and nursery areas.
- To promote scientific research with respect to marine fisheries resources.
- To cooperate with Fisheries Departments in other islands/nations in the management of shared or highly migratory stocks.

POLICY ON MARINE RESOURCES

As with agriculture, marine resources, such as fish and reefs, are integral to food production and tourism, and their use must be guided by a policy to guarantee their sustainability. Fisheries and other marine stock are really regional stock, in that each jurisdiction has limited control over these. Depletion of inshore resources had forced local activity to the wider exclusive economic zone (EEZ). Iceboats must now replace pirogues. Processors must also meet the standards established by the Hazards Analysis and Critical Control Points regulations, effective from December 17, 1997, as well as the European Union's ISO 9000 quality and quality assurance regulations. The regulation and continuous monitoring of the exploitation of fisheries and other marine resources are crucial to their sustainability. Poaching and over-fishing will therefore be counteracted by firm action. In the face of increased regulation, institutional and infrastructure support will be provided to fisher-folk and aquaculturists. This is in an effort to encourage sustainable exploitation of fisheries and other marine resources through continued development, monitoring and evaluation of marine stock, training of fisheries personnel, upgrading of boats and equipment and the establishment of a market information system that caters to both agriculture and marine affairs.

The Executive should develop programmes to identify international joint-venture partners for local aquaculture, including support for a commercial central farm and satellite farms. Appropriate links will be established with national and international agencies to improve the management of Caribbean marine resources. The result of all this should be sustainable exploitation of fisheries and other marine resources.

In addition, marketing supports should be provided to increase the per capita consumption of fish produced by the domestic industry. Exports will expand, leading to increased earnings of foreign exchange from fish and fish products. Thus, the industry will develop in ways that lead to improvement of the standard of living of fishermen, while becoming an important part of the island's programme to generate up to 4,000 new, high-skilled jobs by the year 2000.

The implementation of a fisheries development plan will necessitate a carefully structured administration of the sector, with special consideration given to: staffing and continuous staff training, requirements for successful exploitation of the EEZ such as appropriate boats and equipment and marketing and information.

The Tobago House of Assembly, for example, upon development of its coastal, marine resources and fisheries policy, plans to conserve all coastal and marine ecosystems by using a system of protected areas. Executives should refrain from encouraging industrial, tourism, recreational or other types of developmental activities that will contribute to the degradation and destruction of sensitive coastal ecosystems such as coral reefs, wetlands and seagrass beds. They should prevent or curtail pollution of the marine environment from land-based, ship-based or fixed marine platform sources. They should enforce measures to prevent or restrict sand mining on beaches. They must establish and enforce building setbacks from the shoreline. Additionally they must encourage stakeholder participation in solving problems related to multi-user conflicts in coastal areas in keeping with sound integrated coastal zone management principles and philosophies.

Wetlands, including mangrove swamps, are transitional between terrestrial and aquatic ecosystems, which by nature perform critical ecological functions in maintaining environmental equilibrium. These productive systems may protect coastlines from erosion and storm surges, export nutrients to the sea, build land by entrapping sediments and provide nurseries and important habitat for various species. Additionally, they are sources of food and recreation in rural areas. Consequently government policy should protect, manage and restore wetlands in order to sustain their ecological and socio-economic values and functions for current and future generations.

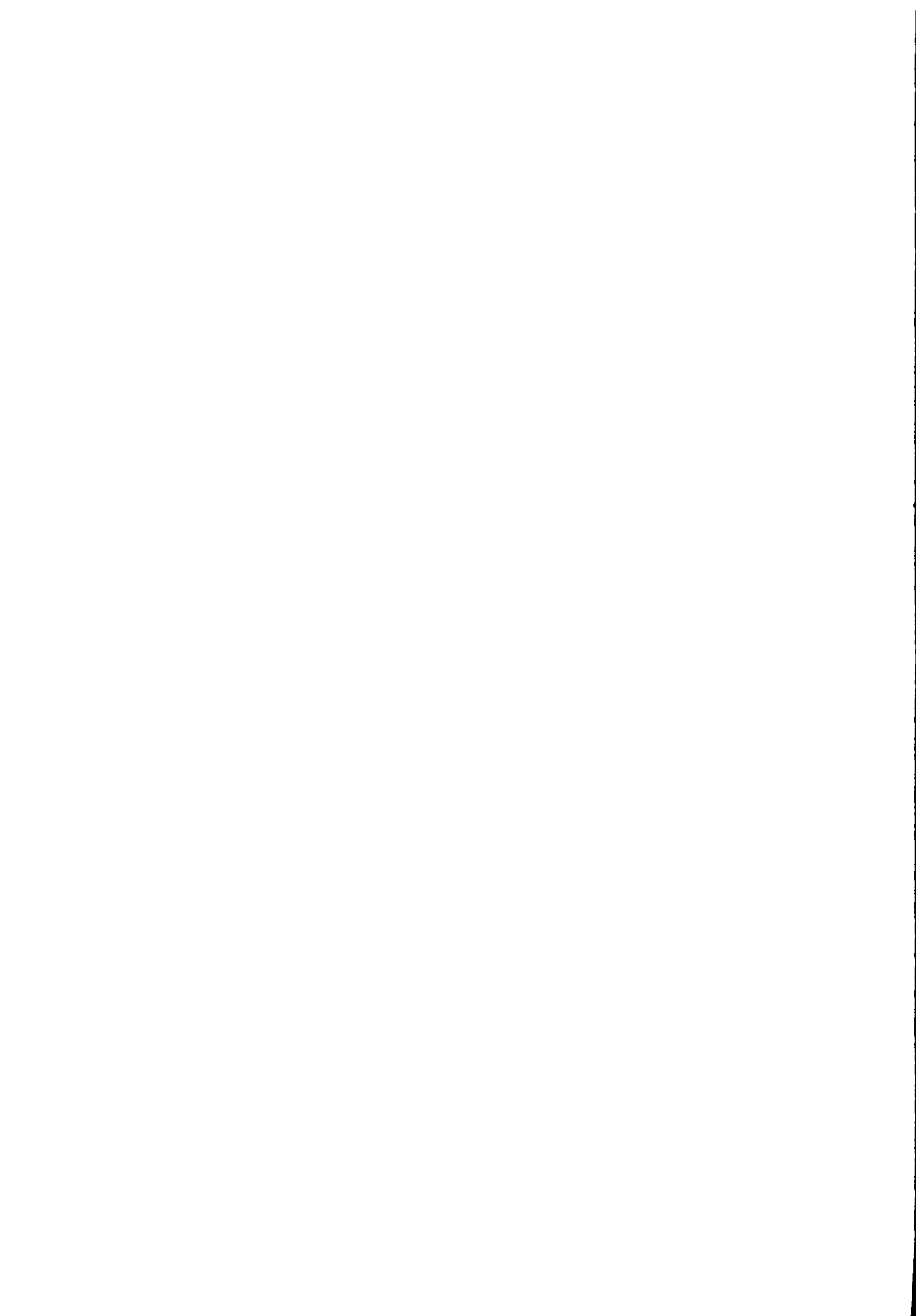
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Agro-tourism – a sustainable approach to economic growth

**AGRO-TOURISM:
SPECIAL ISSUES**





THE IMPLICATIONS OF AGRO-TOURISM IN THE CARIBBEAN

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AGRICULTURE AND TRAVEL

Agriculture and travel have been human activities from the very beginning of the civilization of mankind. Agriculture is broadly the 'cultivation of the soil and/or rearing of animals'. Men, women and children traveled first in search of food, to avoid danger and basically to survive. Later, religious and cultural activities became some of the key reasons that motivated human beings to travel on a more planned basis. In the 21st century travel has become an integral part of 'the global lifestyle' of mankind. In general, the ever-improving disposable income, educational levels, leisure time, technology, transport and communication will further increase the volume of travel by human beings.

TOURISM IN THE WORLD

Tourism is widely accepted as the actions and activities resulting from the movement of people from their homes to other places for various purposes other than paid work. A properly planned, developed and controlled tourism industry will positively affect the society and the economy. Enrichment of the tourism industry with national characteristics is vital for a healthy development of tourism (Jayawardena 1993). Travel and tourism encompassing transport, accommodation, catering, recreation and services for travelers is the world's largest industry (WTTC 1998). Today, around 231 million human beings are directly or indirectly employed in the worldwide tourism industry, which is 10% of the world's workforce. Tourism contributes around 11.5% of direct or indirect Gross Domestic Product (GDP) to the world economy. The World Travel and Tourism Council predicts that by the year 2010, the tourism contribution to GDP will increase to 12.5% and that the number of direct and indirect tourism employees will increase to some 328 million worldwide (WTTC 1998).

International tourist arrivals have grown from 69 million in 1960 to 160 million in 1970 and 657 million in 1999. International tourist travel has grown steadily over the years except for the periods of slow growth associated with the oil crisis during the early 1980s and the Gulf War in the early 1990s. It stands beyond doubt that international tourism, perhaps because of its enormous quantitative growth, finds itself in a phase of radical change, technologically, economically, ecologically and morally. In 1998, the Alliance Internationale de Tourisme (AIT), a parent company of more than 130 automobile and touring clubs, motorbike, bicycle, camping and hiking associations, celebrated its 100th anniversary. On this occasion, AIT looked into the 'future trends of tourism'. AIT organized a Delphi study with 223 selected international experts from 64 countries with questions on the expected tourism development during the next 5 to 15 years (Obermair 1999). The four E's of tourism were narrated as a 'trend signpost'. These are:

- Educational tourism, culture and history
- Event and mega-event related tourism
- Entertainment and fun
- Environment and clean nature

THE CARIBBEAN REGION

The Caribbean is a fascinating and unique region. An archipelago of sunny and tropical islands naturally decorated with exotic flora and fauna, surrounded with blue seas and gentle breezes, is the general impression of the region in the minds of most visitors. This is true in most areas within the region. But the Caribbean has much more to offer to millions of tourists and cruise passengers visiting the region. There is no other region in the world that is so dependent on tourism for economic growth as the Caribbean. Tourism has become the leading growth sector in most economies (Jayawardena 1999). For convenience, the definition of the Caribbean will be used in this paper to identify 34 destinations that are members of the umbrella organization of the region's tourism industry, Caribbean Tourism Organization (CTO). In this definition, the Caribbean region includes a few countries/regions on the mainland in South and Central America. The area between south of Florida in the USA, Cancun in Mexico, Belize, Venezuela, and Suriname in South America, is now referred to as the Caribbean. Although in the western Atlantic, Bermuda is treated as a regional island by the CTO for statistical purposes. This geographical region consists of former colonies of Britain, Spain, France and Netherlands. These countries vary tremendously in terrain, size, population, culture and economic prosperity. According to the Caribbean Tourism Organization, the population of the Caribbean is approximately 60.4 million with the five largest jurisdictions (Venezuela, Cuba, Dominican Republic, Haiti and Puerto Rico) accounting for approximately 86% of the total population (KPMG Management Consultants 2000).

TOURISM IN THE CARIBBEAN

In 1998 the Caribbean attracted 31.8 million tourists including 12.3 million cruise ship passengers. During the past decade the Caribbean enjoyed a 5.5% average annual growth rate in tourist arrivals which was higher than the growth rate for the world (4.9%) (CTO 2000). Compared to the world average, the Caribbean records a significantly high level (25%) of its workers employed in tourism-related business. With over US\$17,900 million total tourist receipts in 1998, the Caribbean (as one destination) was ahead of major tourist destinations such as Germany, Austria and China and was placed sixth in the world's tourism league table behind the USA, Italy, France, Spain and the UK (The Economist 1999). The Caribbean now has more than a quarter of a million hotel rooms. Tourism has become the leading growth sector in most economies as stagnation persisted in traditional output and export sectors. In spite of the significant increase in the contribution of tourism to regional economies, tourism as a viable industry received less than its fair share of attention from public and private sector policy officials, planners, managers and marketing specialists. There is a lack of a conventional and consistent definition of tourism as an economic sector. The total income from tourism, although not a true reflection of success, is the most commonly used criteria for measuring the success of a country as a tourist destination. In this context, and based on 1998 figures, the following seven countries/destinations can be ranked as the tourism leaders in the Caribbean:

1. Cancun
2. Dominican Republic
3. Puerto Rico
4. Bahamas
5. Cuba
6. Venezuela
7. Jamaica

Table 1 analyses the key indicators of these seven top ranking tourist destinations and those of other Caribbean destinations:

Table 1 Ranking and key indicators for Caribbean tourist destinations, 1998

Rank based on total income *	Destination	Tourism Income (US\$ millions)	Tourist Arrivals (000s)	Cruise Passengers (000s)	Hotel Rooms	Approximate Population (millions)	1998
1 (3)	Cancun	2,430	2,664	-	23,581	0.5	
2 (2)	Dominican Republic	2,142	2,308	394	38,292	7.4	
3 (1)	Puerto Rico	2,120	1,064	1,243	9,159	3.8	
4 (5)	Bahamas	1,403	1,540	1,730	14,243	0.3	
5 (4)	Cuba	1,398**	1,416	-	33,110	11.1	
6 (7)	Venezuela	1,233	837	-	32,810	22.4	
7 (6)	Jamaica	1,197	1,225	674	15,080	2.6	
Total for top 7 destinations		11,923	11,054	4,041	166,275	48.1	
Total for other 27 destinations		5,977	8,446	8,259	61,725	12.3	
Total for 34 destinations		17,900	19,500	12,300	228,000	60.4	
% of top 7 destinations		67%	57%	33%	73%	80%	
% of other 27 destinations		33%	43%	67%	27%	20%	
Average per top 7 destinations		1,703	1,579	577	23,753	6.9	
Average per other 27 destinations		221	313	306	2,286	0.5	

* 1997 ranks are given within brackets

** Approximate estimate

The overall dominance of the aspects analysed in Table 1 for the top ranking seven destinations is clearly evident. If the averages per destination are compared, it is noticed that the averages of seven top ranked destinations are far greater than the averages of the other 27 Caribbean destinations. On average, a top ranking destination when compared to a lower ranking destination:

- Has over ten times more hotel rooms
- Receives nearly eight times more income from tourism
- Has over five times more tourist arrivals
- Has nearly twice the number of cruise passengers.

However, when considering the lower population of the 27 other destinations, the per capita income from tourism indicates a totally different picture. The per capita annual tourism income for 1998 can be analysed as:

In all 34 Caribbean destinations	-	US \$296
In 7 top ranking destinations	-	US \$248
In 27 other Caribbean destinations	-	US \$486

According to the analysis, per capita tourism receipts of lower ranking Caribbean destinations are 95% more than a top ranking Caribbean destination.

FUTURE OF TOURISM IN THE CARIBBEAN

As the most significant industry of the region, it is essential that Caribbean destinations prepare detailed master plans to face the challenges of the future. In a recent paper Dr. Jean Holder, Secretary General, CTO, states: "We need to review the performance and prospects of a changing environment. For this, we need to ask and seek to answer a number of questions and hopefully make some suggestions at the end about the way forward" (Holder 1999).

He then argues that in light of the current deep troubles faced by export agriculture and many of the Caribbean's infant industries tourism's premier place as the development vehicle for the region has to be recognized. CTO predicts higher growth rates for the Caribbean's tourist arrivals than the world average during the next ten years (Table 2).

To remain competitive, the Caribbean will need new and varied accommodation stock. This has risen to around 250,000 rooms at the turn of the century and is predicted to approach 400,000 rooms by 2010.

Now more than ever before, national efforts need to be complemented by major regional policies and strategies. This is particularly true of marketing, where the majority of our countries with small resources will be totally ineffective in the major marketplaces and a critical mass of resources is needed to promote and project the Caribbean brand as one destination above the clamour of the rest of the competition (Holder 1999). However, marketing the region as one destination has many advantages, but also some disadvantages, particularly in low ranking destinations, can be identified.

Table 2 World and Caribbean tourist arrivals (millions) 1997–2010

	1997	2000	2010	Average Annual Growth
World tourist arrivals	612.0	673.0	1,045.0	4.2%
Caribbean tourist arrivals	18.9	22.5	37.9	5.5%
Caribbean cruise passengers	11.9	13.9	26.3	6.6%
Total Caribbean visitors	30.8	36.4	64.2	5.8%
% Caribbean share (tourists only)	3.1%	3.3%	3.6%	

In a recent paper entitled 'Towards a sustainable tourism zone in the wider Caribbean' Miguel Ceara Hatton identifies the following trends for tourism in the Caribbean (Hatton 1998):

- Higher growth rates for Central America in income and in arrivals
- Falling growth rates for islands in the wider Caribbean
- In terms of the impact, which generates foreign exchange, arrivals have been elastic in all regions
- The growth of the nominal demand for tourism was adjusted by 30% by prices in the islands and Central America.

The beach is no longer the only focus of the vacation in most warm holiday destinations. Thus, the tourism product and the Caribbean tourism's future will depend on whether we can deliver a high quality product that corresponds to the changing tastes of the international traveler. In the minds of many visitors to Caribbean destinations, the Caribbean simply offers one main product, a 'romantic island holiday'. However, careful segmentation and niche marketing strategies of Caribbean destinations may result in significant market growth and optimization of income from tourism, and thereby economic growth. Agro-tourism can be identified as a potential niche market for the Caribbean.

Tourism in the Caribbean will continue to create more quality jobs in the region and it is predicted that the regional employment growth from now to year 2010 will be around 26%. Tourism continues to be the most important industry and the most valuable product of the Caribbean region. "An essential aspect of that product is the people. The human resources who provide a world class tourist experience. Their willingness to deliver that experience could make or break Caribbean tourism. The sun, sand and sea will not be sufficient to keep tourists coming. It is quality people who have been given quality education and training who will make the difference" (Charles 1997).

External factors will influence the future of the tourism industry in the Caribbean. Sound environmental management systems, globally accepted quality assurance systems, general standards, growing customer expectations and demands for better value for money will be some of the challenges for the future. To avoid overdependency on North American feeder markets, many destinations will attempt to increase arrivals from Europe, Latin America, and the Caribbean intra-regional market. Europeans, particularly British nationals, can be much more demanding than their north American counterparts with regards to food hygiene, food safety, fire safety and general safety standards.

"Over and above local regulations and licensing requirements, European tour operators increasingly are specifying standards which they expect their suppliers in the Caribbean to meet, and these may be coupled with contractual obligations for recovery from the supplier of successful compensation claims against the tour operator. At the root of this search for higher standards in safety and hygiene is the 'EC Package Travel Directive' which imposed on tour operators increased liability, and a subsequent wave of litigation and unfavourable TV publicity in Europe which has forced them to take elaborate defensive measures." (Deras and Crooks 1999)

In general, a main area of weakness in some Caribbean destinations is perceived as food safety and hygiene. Conforming to current and future European standards will be essential for the Caribbean to increase arrivals from European feeder markets. Compared to an average North American tourist the average European tourist spends less money per night. But considering the longer stay and higher interest in cultural, historical, natural facets of destinations than average North American tourists, the European tourist may contribute more towards the growth of tourism in the Caribbean in the future. Agro- tourism products in the Caribbean may attract more Europeans.

SUSTAINABLE TOURISM DEVELOPMENT

Success of tourism in the Caribbean, in general, has not been a planned achievement or a strategic option. In a majority of the countries, tourism has emerged accidentally as an economic saviour when the traditional agro-export sector failed to retain its position in the global marketplace. Agricultural-based industries in the Caribbean continue to face major problems. As an example: "The production costs for bananas grown in the Caribbean islands are on average about three times higher than the production costs for bananas grown in South America, while the production costs for sugar in Jamaica are now about 33 cents/lb, more than four times higher than the production costs for sugar in Australia. As sugar is currently trading on the world market at the depressed price of 5 cents/lb,

as a result of earlier overstocking, Jamaica's production costs are now more than six times the current market value of the sugar. Thus it is clear that the sugar, banana and rum industries depend for their survival on the protection afforded by the preferential trade arrangements with the EU, and will therefore be vulnerable when fully exposed to low-cost competition, world market prices and unprotected trading conditions. The market for sugar is particularly uncompromising, as the world market is currently being oversupplied by some 10–20 million tonnes per annum." (Clayton 2000)

As a result, in Jamaica the contribution from tourism towards foreign revenue is predicted to increase from the current 52% to approximately 60% in the near future. In the context of growing dependence and often overdependence on tourism, it is essential that a more strategic and market-driven approach be taken. Regional and national tourism master plans with inputs and blessings from all directly/indirectly involved sectors and groups are strongly recommended. The overdependency on one industry (especially a relatively sensitive industry such as tourism) is dangerous for any country.

"There is a great deal of interest today in the concept of sustainable tourism, and there are now a number of initiatives in pursuit of this new goal. This process has been largely driven, to date, by the growing concern over environmental issues. The industry in the Caribbean region, for example, is generally aware that it depends on being able to offer an attractive environment, although much of the actual discussion so far has focused on good housekeeping and internal efficiency rather than on externalized impacts. There has been little discussion, to date, of more fundamental issues, such as the sustainability of the natural resource base or the wider social costs and benefits. Nevertheless, there is a good basis of awareness and concern both within the industry and among consumers for a move to a more genuinely sustainable development pathway, and for the further evolution of the industry as an instrument of a wider process of sustainable development." (Clayton 2000).

The overdependence on tourism itself will have negative impacts on the sustainability of tourism. Therefore well-planned and well-timed diversification efforts are recommended for the Caribbean countries. Of course this will not be too easy. Analysing the stages of the life cycle of each traditional industry and then dropping or revitalizing it (mainly by improving productivity) must be done. As the next step, market research based on new industry/product development strategies has to be considered. Spin-off benefits from tourism can be considered in this decision-making process. Agro-tourism may have a key role to play in this strategic approach to ensure sustainability of the tourism industry in the Caribbean.

Economic survival of the Caribbean region seems to depend on creating a sustainable tourism industry. Sustainable development is a concept that marries two conflicting ideas: development and sustainability. Achieving a balance therefore is an important concept, which requires moderation and control. Sustainability is often addressed from an environmental perspective and the preservation of the environment, though a necessary condition, is not sufficient for the sustainability of tourism. Less frequently this is coupled with socio-cultural concerns. CTO has defined tourism as an environmentally dependent industry. The sustainability of tourism in the Caribbean is threatened by negative environmental impacts, escalating competition, loss of control over air access, level of crime in some countries and failure of the local population to benefit directly from tourism.

Sustaining Caribbean tourism depends on the region's ability to maintain product quality, ensure profitability, promote effectively, provide air access, ensure safety, ensure acceptance of the local population, strengthen linkages between tourism and other economic sectors, and combine regional efforts to create a competitive force (Holder 1996).

In his recent paper entitled 'Tourism in the ACS countries at the dawn of the new millennium' Carlos J. Davila mentions: "The creation of the first sustainable tourism zone in the world is of special significance to the countries of the Caribbean basin which have decided to unite with a view to achieving this objective" (Davila 1999).

At the third meeting of the Ministerial Council, held in Cartagena, Columbia in 1997, the principles and strategies that would serve as the framework for the agreement for the creation of the Caribbean Sustainable Tourism Zone were approved. The approved principles were:

- Sustainability as a condition
- The region as a unit
- Tourism as the fundamental basis of economies
- Cooperation as a means toward achieving the objectives of tourist sustainability
- Consensus as the basis for sustainability
- Sustainability as a condition for competitiveness.

SPECIAL INTEREST TOURISM

According to an expert in travel research: "Forget lying on the beach, forget getting away from it all, today's travelers, who have already been there and done that, and have a little more money to spend are looking for new experiences. From wine-tasting tours, archaeological excursions and cooking experiences to art vacations and crocodile camp safaris – you name the special interest and there is likely to be a travel product offered for it". The 1998 World Travel Market listed nearly 1,000 special interest tourism products. This is regarded as a fraction of the product offerings available today (Jayawardena 1999b).

For future Caribbean tourism, the total market can be broadly grouped into five segments.

The first segment is cruise line passengers, who spend the least (per capita), but is a large segment in market size. This sector is frequently criticized by others involved in tourism for creating lower than potential income for host destinations. On the other hand it is viewed alternatively as a captive audience that can produce future stay-over tourists albeit as a small percentage.

The second segment is tourists attracted to all-inclusive hotels. Not all Caribbean destinations have seen investment in developing this category of hotels. Jamaica was the pioneer and clearly the leader in the upper and middle market bracket of all-inclusive hotels in the Caribbean. Although there may be exceptions, a typical all-inclusive hotel guest may spend very little time visiting attractions, meeting local people, taking tours and experiencing the local culture. Often all-inclusive hotels will package the 'tasting of local elements' in their products within the limits, or within the walls of these hotels. Along with cruise lines, the all-inclusive hotels can be branded as experts whose success can be attributed mainly to practising the very basics of the marketing concept – identifying and satisfying customer needs at a profit. The high occupancy of these hotels (in Jamaica this is 20% higher than the other hotels) and the overwhelming success story of cruise lines operating in the Caribbean, confirms that market orientation is the key for success.

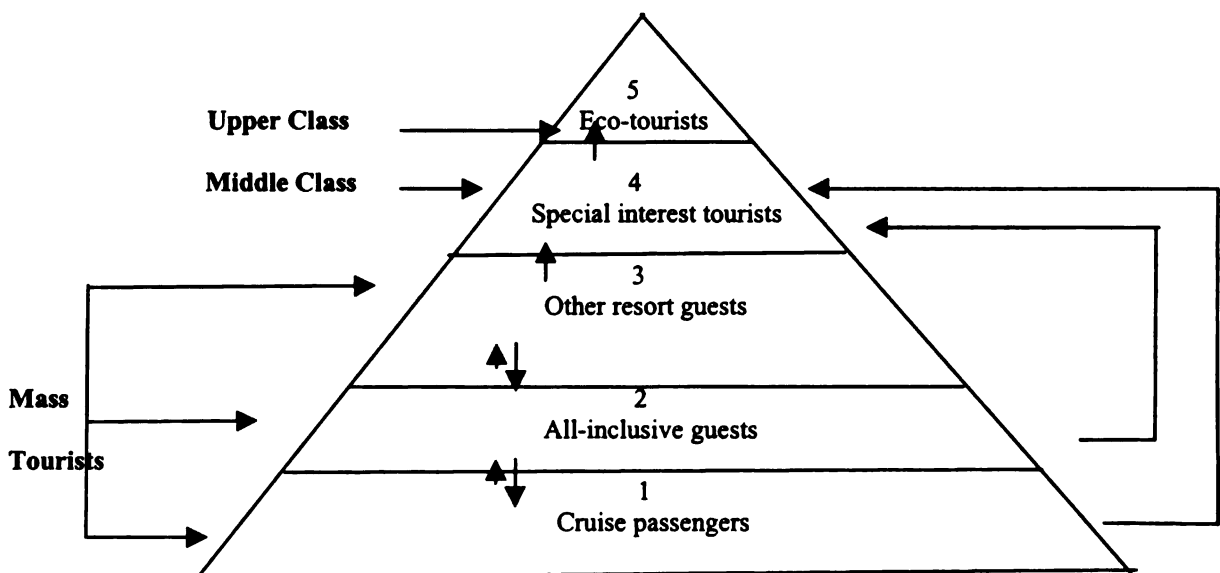
The third segment is tourists attracted to other beach resorts and inns in the Caribbean. These three segments can be branded as 'mass tourists'.

The fourth segment is special interest tourists. While research on this type of travel is comparatively limited, international trends are signaling that more people want action and the opportunity to experience new activities with a sense of personal adventure in a safe environment. Research in the United Kingdom suggests that as travelers mature in age and gain experience in traveling, they are more likely to become interested in special interests travel. Unlike mass-market tourists who ask themselves: "Where would I like to go and what can I see?" the special interest tourist asks: "What are my interests and where can I pursue them?" Mass-market tourism will continue to be important to the Caribbean and is expected to grow when it is considered that most North Americans are yet to travel to another country. At the same time special interest tourism is increasingly capturing more attention.

The fifth and last segment is eco-tourists. This segment is still very small in comparison to the other segments and is often seen as a niche market. In general, hard-core eco-tourists are more educated, well read and often have more disposable income than the other segments. Eco-tourism is described by some as "responsible travel to natural areas that concerns the environment and improves the welfare of the local people". Eco-tourism has the potential of receiving greater support from local people even in countries where institutions geared towards developing tourism often face hostility, cultural barriers, challenges and objections (Jayawardena, 1999). These segments can be grouped in a pyramid and lines of maturity and the graduation to higher, but smaller, segments can be identified. This new theory is summed up in

Figure 1.

Figure 1 Pyramid of Tourism Segmentation (POTS)



It is not essential that all visitors must graduate from level 1 to level 2 and so on. Some will remain on their respective levels throughout, as they will not be attracted to the products designed for tourists at other levels. Some may bypass a level or two in the graduating process. At the same time it is unlikely that a mass tourist will overnight develop a desire to become a hard-core eco-tourist. Usually level 4 produces most level 5 tourists. Special interest tourists are similar to the middle class of a country. It is the backbone of the future of tourism. On reaching this level it is unlikely that most special interest tourists return to become mass tourists. Countries such as Belize, Dominica, Guyana, Suriname etc., are attempting to attract more eco-tourists. These counties should look at the potential

Agro-tourism – a sustainable approach to economic growth

increase of special interest tourists as a strategic option. Having that segment of special interest tourists will strengthen the structure and lay a good foundation for the growth of eco-tourism in a strategic sense.

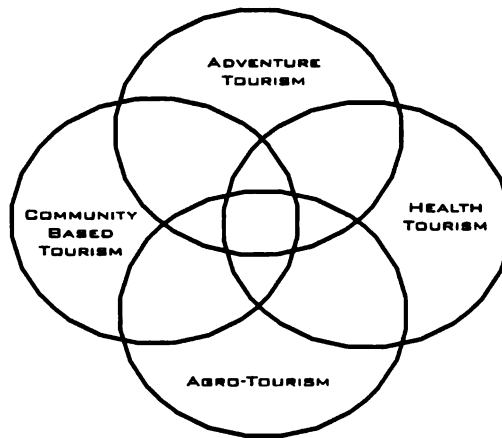
Special interest tourism can be subdivided into sections such as adventure tourism, which is a relatively new area of tourism in the Caribbean. It comprises establishments involved in non-traditional tourism activities such as land, water and air sports, birdwatching, hiking and the burgeoning related areas of eco-tourism and sustainable tourism. Establishments in this sector would include marinas, sporting facilities, parks, nature reserves etc. (Quality Consultants 1999).

Special interest tourism can be subdivided in to four main sections:

- Adventure tourism
- Community-based tourism
- Health tourism
- Agro- (or agri-) tourism

It is also possible to combine two or more of these sub-sections in tourism development as shown in Figure 2.

Figure 2 Special interest tourism



AGRO-TOURISM

Agro-tourism is an expanding sector around the world. It is the economic activity in which people link travel with products, services and experiences of the agricultural and food system. Tourists who want to experience rural life meet and interact with local people and this in itself is a growing market segment in tourism. Agro-tourism can include farm bed and breakfast operations, farm vacations, horse and carriage rides, hay rides, picnic and camping sites on farms, on-farm craft and food stores, educational tours, agricultural fairs and farmer field days, farmers' markets, and so the list goes on.

The terms 'agro-tourism' and 'agri-tourism' refer to the same activity and are used in different parts of the world; in the Caribbean, the term widely used is agro-tourism and in Canada the term used is agri-tourism.

Agro-tourism – a sustainable approach to economic growth

Agro-tourism offers farmers new opportunities to diversify and increase farm revenues, while offering a predominantly urban population the opportunity to learn about the agricultural industry and its importance to the economy.

There are many benefits associated with agro-tourism both to the individual operator and to the agricultural industry as a whole. For the operator, agro-tourism may offer an opportunity to diversify or augment farm income, while at the same time promoting a greater awareness of the agricultural industry and an increased demand for agricultural products.

Agro-tourism is a rapidly growing component of the global tourism industry, particularly in Europe where it has existed for more than 100 years.

Honey (1999) reports that on a drive through the Sierra de los Organos, shortly after the Cuban Revolution in 1959, President Fidel Castro of Cuba envisioned developing the agriculturally rich and breathtakingly beautiful province of Pinar del Rio for what he called 'agro-tourism'. The province, which lies to the west of Havana, includes several distinct zones, ranging from mountains to beaches with vast fields of tobacco and sugar cane throughout.

This is perhaps the first recorded use of the term and an attempt at developing the concept of agro-tourism in the Caribbean. What is important in this approach is the link of conventional tourism with the agricultural sector as part of the tourist attraction. Agro-tourism, as a concept or type, seeks to formalize the natural enquiry of man into how things are done or made into an added attraction to the tourist. However, it is important to realize that for years tourists have been visiting the historical sites in Europe and as a part of their tour have visited the vineyards and olive orchards and observed how wine was made and olive oil produced. It is for us to satisfy this interest in learning and experiencing how products are made in order to encourage extended stays in the Caribbean, accepting that agro-tourism may not be viable in the region if promoted to be independent of other forms of the service.

In Castro's use of the term there is an inescapable link to nature-based tourism and Honey (1999) defined it within the context of eco-tourism. However, agro-tourism is best defined as:

"Farm-based accommodations (either fixed roof or camping), farm-based meals, farm-based activities, agricultural festivals/events and farm-based retail opportunities where the traveling public interacts directly with the family/farm workers." However it is noted that many different definitions are used by practitioners and academics at present.

Agro-tourism is a growing trend in agriculture that merges the world of travel with the experiences of travel. There are numerous opportunities within the Caribbean region ranging, for example, from coffee farms and liqueur distilling in the Blue Mountains of Jamaica to cattle ranching on the savannahs of Rupununi in Guyana.

As stated in a previous section, when discussing any form of tourism in the Caribbean one should not ignore domestic and regional demand, particularly as trends show that the Caribbean tourist is becoming increasingly tired of the annual jaunt to North America. The economic implication here should not be underestimated.

AGRI-TOURISM IN CANADA

The last few years have seen a growing interest across Canada with several provinces commissioning studies into this sector of the tourism industry.

The Caribbean can learn a few lessons from agri-tourism in Canada. In 1999, a major study of agri-tourism in Newfoundland and Labrador, Canada, was carried out by D.W. Knight Associates on behalf of the Department of Forest Resources and Agri-foods, Canada. In this province, approximately 30 agri-tourism operations were identified during the course of this study. These operations are located almost entirely on the island portion of the province and include agricultural fairs and festivals, farm based bed and breakfast, 'U-picks', farm tours, wineries and roadside markets. To date these businesses are operating independently in that there has been no attempt to package a series of agri-tourism operations for the tourism market. They are dispersed throughout the island and vary in both scale and degree of reliance on the tourist market. (Knight Associates 1999)

A review of definitions in published material on the agri-tourism industry in some of the provinces in Canada is as follows:

Manitoba: Agri-tourism describes economic activity between tourist and farm operators.

Quebec: Agri-tourism is based upon services and/or products offered by an agricultural producer where contact is established between the producer and the tourist. As one Quebec tourist development officer stated: "Agri-tourism is the meeting of two worlds – the world of agriculture and the world of tourism and it is the symbiosis between the two which is important".

Nova Scotia: The agri-tourism sector includes farm-based accommodations (either fixed roof or camping), farm-based meals, farm-based activities, agricultural festivals / events, attractions (e.g. museums, co-operative or corporate agri-business tours with retail opportunities) and farm-based retail opportunities where the traveling public interacts directly with the farm family/farm workers.

British Columbia: Agri-tourism combines the natural setting and products of agricultural operation with a tourism experience. It includes providing tourists with opportunities to experience a broad spectrum of products and services ranging from fruit stands to winery and orchard tours or farm based bed and breakfast accommodation, to alpaca farm tours and cattle drives. While only examples, these products and services all include a combination of agriculture and tourism components.

Ontario: A more restricted definition by Richard Buck, Agri-Cultural Tours, Kitchener, Ontario, is: "Agri-tourism is the recreational and purposeful act of visiting a professional agricultural, horticultural or agri-business enterprise, and which might include active involvement, be it educational in nature or be it for the sole purpose of enjoyment."

Newfoundland and Labrador: Agri-tourism is the economic activity that occurs when agricultural products, services and heritage are linked with travel markets. At its core are tourist product offerings and services that either take place on working farms or directly involve and benefit working farm families in venues such as agricultural fairs and festivals. Facilities that directly promote and interpret the agricultural industry to tourists such as heritage gardens, dedicated agricultural museums and food processing operations may also be considered part of the agro-tourism sector.

Following a review of the literature in Canada, the minimum criteria, which would seem to apply to agri-tourism are the following (Knight Associates 1999):

- Agri-tourism normally takes place in a rural or farm setting

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- Agri-tourism should benefit the agricultural industry
- Agri-tourism is based upon activities or products offered by agricultural producers
- Agri-tourism involves contact between the producer/agricultural products and the tourist
- Agri-tourism implies economic activity between the agricultural producer and the tourist
- An Agri-tourism product, e.g. a package tour, should be complete in that it should contain activities, lodging and food. Different operators in a given rural area can offer these elements.

ECONOMICS AND AGRICULTURE

Agro-tourism can be thought of as agricultural diversification of the farm product. Its major impact would be to make marginal farms profitable. This is of particular importance to the Caribbean where our major exports of sugar and banana are under serious threat as the preferential treatment of these products under the Lomé Convention is being removed. Quite often, diversification is misinterpreted to mean the abandonment of the original product or reduction in production. In Guyana, the state-owned corporation, Guyana Sugar Corporation, diversified by reducing acreage of sugar under cultivation and getting involved in cattle farming as well as rice cultivation. However, in this form of diversification farmers continue to do what they know best. The level of production can be maintained and a new product, tourism, added.

In most parts of the Caribbean, the fact that the agricultural areas are within easy reach of the beach is an added advantage as tourists can be accommodated on the farm and spend time on the beach, or vice versa. Of course holidays can also be divided into stays on the beach as well as stays on the farm. In all the scenarios mentioned, there is not only the potential for attracting more tourists, but increasing the duration of visits. An average one-day extension of a ten-day stay to experience a taste of agro-tourism will increase present tourist earnings by 10%.

As shown in Table 3, the average length of stay of tourists from the US and Europe varies in different Caribbean destinations. What is clear from this analysis of eight Caribbean countries is that the average stay of a European tourist is between 33% and 120% longer than the average stay of an American visiting the Caribbean.

Table 3 Average Length of Stay in 1998

Destination	Tourists from USA	Tourists from Europe	% of additional days spent by a European
Jamaica	9	17	89
Martinique	9	16	78
Barbados	9	12	33
Dominican Republic	8	12	33
Aruba	7	12	58%
St. Lucia	7	12	58%
St. Maarten	5	11	120
Bahamas	5	10	100

Source: CTO 2000

As mentioned in a previous section of the paper, Europeans should be a prime target segment for agro-tourism in the Caribbean.

Agro-tourism can have the following on-farm benefits:

- Introduction of consumers (tourists) to the farm
- Earnings can be attained from added attractions
- Income can be obtained from hospitality services provided
- Farmers and small, local entrepreneurs can produce non-traditional products such as confectionaries from local fruits (sugar cakes, tamarind balls, fudges, jams, pickles, chips from plantains, bananas, yams and cassava) and craft items.

Agro-tourism also provides an excellent means of supporting rural communities and businesses. Tourists can provide income to local businesses that maintain farming communities. An added impact of agro-tourism is that it will increase agricultural awareness and agro-manufacturing education among the local population and promotion of domestic agricultural products. This is of particular importance to Caribbean economies as local fruits and vegetables are under heavy competition from foreign produce.

The analysis of the benefits from agro-tourism suggests that the multiplier effect on the inflow of income from this form will be much greater than conventional tourism. This is mainly because there are severe leakages due to the overdependence on imports to construct facilities and to maintain the tourist in the host country in the Caribbean. Bull (1991) reported that the multiplier ranged from 2.5 in Canada to 0.8 in Bermuda and the Bahamas. With the reduction of leakages, by emphasizing the consumption of local products, the secondary income, that income that remains after 'leakage', will increase significantly and circulate successively throughout the economy creating indirect income and induced income. Agro-tourism will have a reduced outflow from the country and region and more of the initial tourist expenditure will remain to circulate through the economy. By definition, there should be much less reliance on imported resources from outside of the region. A major setback of conventional tourism in the Caribbean has been its dependence on human, physical and capital inflows from extra-regional sources.

The fact that the multiplier for Canada is greater than three times that of the two Caribbean countries mentioned, illustrates the dependence of conventional tourism in the Caribbean on external resources. Added to this is the fact that much of the management control, direct ownership or franchising lies in the hands of external, multinational interest. No such state should be allowed to develop with agro-tourism.

STRATEGIC APPROACH TO AGRO-TOURISM

Tourism is predominantly a private sector activity that capitalizes on a market for the purpose of making a profit. However, as discussed earlier, it represents a substantial percentage of the GDP of many regional economies, hence governments concern about its sustainability as well as the maximizing of efficiency through improvement of management and the streamlining of service systems. Government's role should be that of a facilitator providing incentives for agro-tourism development, developing appropriate land-use philosophies, providing access to the public/tourist and helping to create an effective tie with the resource base.

The tourism sector in the 1990s was characterized by increasing competition and changes in the marketplace. This has been fueled to some extent by the decreasing attractiveness of conventional 'sun, sand and sea' tourism as consumers become more educated and environmentally aware. The rise in eco-tourism and special interest tourism has been attributed to the growth of the tourism sector. Agro-tourism is one area of special interest tourism that can be linked with conventional tourism, eco-tourism and other special interest tourism packages. For agro-tourism to be successful, a strategic approach has to be taken for its development in the Caribbean.

Heskett (1986) identified four basic elements of service strategy:

- Targeting of market segments
- Conceptualization of how the service will be perceived by the consumer
- Focusing on operation strategy
- Designing of an efficient service delivery system.

In adapting these elements to agro-tourism development one must inculcate the defining characteristics of the tourism and hospitality industry. These can be categorized as:

- High contact: Service delivery and service consumption takes place simultaneously in time and space with an agricultural or farm environment.
- Tangible concepts: Clients are quite sensitive to the tangible concepts in the service package. Both the tangibility and intangibility of agro-tourism has to be properly marketed. The intangible aspects can attract the tourist and the tangibles will assist in developing loyalty.
- Right to use: The customer has the right to use accommodation and other facilities on the farm but does not possess the property.
- Seasonal demand: Caribbean tourism demand is subject to the performance of economies external to the host country, however, there is a trend which follows the climatic seasons of Europe and North America. Due to the educational nature of agro-tourism, local and regional demand can be created to fill excess capacity.
- Content of service package: The service package in most cases should be linked to other forms of tourism and attractions. For example, in Barbados sessions of the 'Jazz Blues Festival' are held in old plantations.

Key aspects of a strategic approach to agro-tourism may be categorized as:

- Marketing strategy: The market segmentation for agro-tourism must be synonymous with customer segmentation. Too often analyses treat the tourism product as a rigid, physical product, such as a car. One country can offer various forms of tourism and added attractions to a tourist on a single trip. The model developed earlier indicates the behavior of tourists. Agro-tourism should be attractive to the increasing number of highly educated and environmentally sensitive tourists who are becoming increasingly bored of long stays on the sea and sand. A proper study of the market segments most suited to agro-tourism must be done and once identified, targeted. Segmentation may be based on geographic, demographic, psychographic or any other relevant basis. All key marketing activities such as market segmentation, adjustments to the elements of the marketing mix and marketing planning must be done with marketing research inputs as a strong foundation for the development of agro-tourism in the Caribbean.
- Service strategy: The agricultural environment provides service differentiation from systems efficiency. Of strategic importance, each agro-tourism entity must define its tourism product, market, and opportunities, and with this in mind, must satisfy the expectations of the customer through proper delivery. Each organization involved in agro-tourism will have to develop its own service delivery system. The system should be designed to achieve maximum customer satisfaction and must include facilities and their layout, technology and equipment to be utilized in servicing the tourist, processes for delivering the service and those processes relating directly to the agro-industry that will be displayed, job descriptions for employees

and the roles both employees and the tourist will play during an encounter. For example, it should be decided what aspects the tour guide will explain and when he or she will defer explanation. At the macro-level policies and guidelines should be in place to assist the firm in identifying the important feature of the service delivery system and how best they can be organized, paying special attention to capacity and quality standards.

- Operating Strategy: The operating strategy is a set of strategies, plans and policies, which provide guidelines and to some extent direction for the firms that will be operating in the agro-tourism subsector. From this the firm can derive its own operating strategy pertaining to operations, financing, marketing, development of human resources and controlling in order that it can bring its service concept to life. The operating strategy should be developed considering government's role particularly regarding:
 - Taxation
 - Duties
 - Import policy
 - Government marketing effort
 - Financing, particularly interest rates
 - Education and training
 - Incentives
 - Coordination of tourism master plans

- Integrative Elements: Agro-tourism has great potential to leverage value over cost, as the agricultural entity should be in operation as an agricultural production firm. The tourism aspect will incur cost in maintaining and operating the delivery system. Value is leveraged over cost when the perceived additional value in dollar terms far exceeds the cost of creating it. The differences between perceived value and cost of service can be maximized through standardization, customization and emphasizing easily leveraged activities. At the level of the agro-tourism firm certain integrative elements help the basic elements fit together for a consistent tourism strategy. They provide the guidelines from planning actions to implementing the strategic decisions and include positioning, leveraging value of a cost and strategy system integration. The agro-tourism market is positioned to satisfy the customer's needs for knowledge while at the same time giving an opportunity for relaxation. For agro-tourism to be successful the firms not only have to achieve consistency between the target segment of the tourist population and service concept, but between service concept and operating strategy. Similarly, operating strategy must be consistent with the delivery system for this allocation to become a whole. In the agro-tourism subsector, consistency can be achieved between the operating system and service delivery system by carefully designing the hiring policies, service processes and facilities, and integrating these carefully with the agricultural production entity. In areas such as sugar production, opportunities can be taken of the growing, harvesting and grinding seasons for redeploying resources to the various aspects of the tourism service being offered. There is, however, great need for proper coordination of the tourist activities with the production activities.

CONCLUSIONS

The Caribbean needs to develop new tourism products and services by using its natural resources to satisfy the needs of identified market segments whilst ensuring environmental and economic sustainability. Agro-tourism, without a doubt, provides a new opportunity as well as a new challenge to the Caribbean region. It can succeed only

if a strategic approach is taken. Partnerships and good team work by the regional and national tourism organizations, the public and private sectors, specialists and academics involved in agriculture and tourism, is a prerequisite for optimizing the potential benefits from the agro-tourism subsector in the Caribbean. The role of key players in this new development should be focused on creating awareness and a vision for agro-tourism in the Caribbean as the preliminary step forward. These agencies should then join hands in preparing a strategic master plan for agro-tourism in the Caribbean with inputs from potential consumers, tour operators, travel agents, airlines, ground transportation providers, investors, managers, researchers, consultants and above all from local communities.

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FOOD SAFETY ISSUES AND THEIR IMPLICATIONS FOR AN AGRO-TOURISM DEVELOPMENT STRATEGY

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THE CARIBBEAN HEALTHY HOTEL PROGRAMME

The Pan American Health Organization (PAHO) and the Caribbean Epidemiology Centre (CAREC) have long recognized the linkage of tourism, health and development issues and in 1993 hosted a landmark conference in the Bahamas on Environmental Health and Sustainable Tourism. Three years later, in 1996, CAREC and several tourism and health related organizations from both public and private sectors collaborated in hosting a Regional conference in Trinidad & Tobago entitled *Healthy Guests are Great for Business*. This conference served as a catalyst for both the Caribbean Hotel Association (CHA) and CAREC to begin addressing the issues of health and hygiene in the hotel industry.

The CAREC council in 1997 and 1998 endorsed CAREC's work with PAHO's overall strategy in the area of tourism, health and development. The council exhorted CAREC to forge partnership with relevant ministries in member countries, the Caribbean Hotel Association and the Caribbean Tourism Organization (CTO) in pursuit of the vision for the Caribbean to be the safest, happiest and healthiest of comparable destinations in the world.

In response to this endorsement, the Caribbean Healthy Hotel Programme (CHHP) was formally established in March 1998 with the hiring of a Programme Coordinator, Environmental Health Officer/Trainer, and an Administrative Assistant.

The CHHP has evolved into the Caribbean Tourism Health, Safety and Resource Conservation (CTHSRC) project. This evolution has been borne out of the collaboration between PAHO/CAREC and CHA/CAST, which initially focused on the increasingly high incidence of illness in hotels due to inadequate food safety practices and water management systems. The CTHSRC project will not only address adverse health effects confronting the industry but will also address problems related to environmental and resources conservation, and develop standards and systems for hotels and food service establishments. Under the project a total of US\$2.2 million will be provided, with IADB/IMF contributing US\$1.33 million (cash) and CAREC/CAT counterpart contributions (in kind and cash) valued at US\$800,000. The Bahamas, Barbados, Jamaica and Trinidad and Tobago and the countries of the Organization of Eastern Caribbean States (OECS) will participate in this project.

The mission of CAST is to enhance the practices of the region hotel and tourism operators by providing high-quality education and training to sustainable tourism. CAST serves, through its direct connection with 1,100 Caribbean Hotel Association members and 750 allied members, as a vital link to all tourism sector stakeholders in the Caribbean region. CHA/CAST has been highly successful in promoting the management of natural resources, in providing access to expertise in sustainable tourism and in assisting hotel and tourism operators in the Caribbean region in finding solutions to arrest the degradation of the environment, thus ensuring the continued prosperity of the Caribbean region.

The Caribbean is the most tourist-dependent region in the world, with some 25% of the GDP, with one in 2 jobs and with most hard currency earnings being from this sector.

MAKING RISKS MANAGABLE

Whether one is a Trinbagonian or a foreigner, consuming food including water (also, bottled water) is critical for one's health. The World Health Organization (WHO) over the past ten years has concluded that the health of a nation is no longer dependent on the ratio of medical doctors to population but the number of drinking taps with potable water to population.

The Sanitary Risk Management (SRM) programme

The Sanitary Risk Management programme focuses on managing risks at each of the ten control points. This approach systematizes the otherwise overwhelming task of managing the sanitation risks of the entire food establishment. The SRM programme involves identifying the risks at each control point and implementing procedures for reducing those risks at each control point, managers can successfully reduce the overall risks of operating a food establishment. The end result is satisfaction for guests, staff and members and owners.

A formalized SRM programme ensures a continuous effort better sanitation. It guarantees that important points are not overlooked or forgotten in the course of daily operations and personnel changes. Naturally, a comprehensive SRM programme costs money. However, it provides an immediate payback to the business by performing the following functions:

- Meeting guests expectations, upon which the establishments' success (and everyone's job) depends.
- Protecting guests and staff health, thereby reducing staff members' absence.
- Reducing the operation's liability for accidents, injuries or deaths.
- Increasing the useful life of the operation's facilities and equipment.
- Increasing the effectiveness and reducing the cost of cleaning and sanitation procedures with the proper use of chemicals.
- Reducing the risks associated with the storage and application of toxic chemicals by standardizing products and procedures.
- Simplifying supervision with the use of checklists.
- Eliminating product waste and simplifying work methods through the use of writing cleaning procedures.
- Establishing management objectives that can be used to measure the progress of the business towards reducing risks.
- Providing an acceptable return on investment for the owners of the business.
- Reducing the risk of operating a food establishment.

Hazard Analysis and Critical Control Point (HACCP)

It is very uncomfortable to experience food poisoning at home. The discomfort increases when one is away from home. On an aircraft it becomes intolerable. This scenario motivated NASA, in the USA to develop a prevention-based system for its astronauts. This system is known as the Hazard Analysis and Critical Control Point system.

The HACCP system is prevention-based. It is designed to prevent potential food safety problems. Risks are reduced by assessing the product or food production process and determining the steps that must be taken to control these risks. These are:

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- Identify the Potentially hazardous Foods (PHF)
- Identify the Critical Control Point (CCP)
- Establish Control Procedures
- Establish Procedures to Monitor
- Establish the Corrective Action to be taken
- Establish effective Record Keeping System that documents the HACCP system
- Establish Procedures to Verify that the HACCP system is working.

Critical Control Point (CCP)

A Critical Control Point (CCP) is a point, step or procedure at which food safety hazard can be prevented, eliminated or reduced. For example:

Employee and environmental hygiene:

All employees in a food establishment must practice the 'hands habit'. That is, regular washing of one's hands. Also, an unhygienic environment can contaminate food that would have otherwise been safe for human consumption.

Prevention of cross-contamination:

Food handlers must practice the 'one-way-flow'. For example, ground provisions must not enter the dining area in an uncooked state. Immediate sanitizing of meat boards/chopping blocks, knives and appliances after each use is a must.

Specific sanitation procedures:

Employees must be trained and specifically designated to execute these procedures, noting the strength of the sanitizing agent.

Cooking:

The specified temperature must be achieved at all times during cooking.

Chilling etc.:

Similarly, as in cooking, the specified temperature must be maintained at all times.

THE TOURIST AS A SAMPLER OF LOCAL CUISINE

Table 1 gives an indication of the amount of tourists who visit Trinidad and Tobago via cruise ships. A total of over 44,000 persons visited for the first quarter of the year 2000.

Table 1 Number of Cruise ship visitors to Trinidad and Tobago. First quarter 2000.

MONTH	TRINDAD	TOBAGO	TOTAL
January	503	5,498	6,001
February	14,150	5,044	19,194
March	16,840	2,910	19,750
TOTAL	33,680	13,452	44,945

Source: TIDCO

When one travels, especially as a tourist, sampling the local cuisine is a must. In Tobago, the crab and dumpling ranks as the number one interest for tourist as a Tobago original. However, cooks must exercise caution on the source and preparation of the crab. The increasing pollution of the coastal areas and, by extension, the catchment areas from which the crabs are gleaned puts the consumer at risk. The banning of oysters in Trinidad and Tobago a few years ago was as a direct result of polluted catchment areas coupled with the regional threat of cholera.

Trinidad's special cuisine includes Indian delicacies. Roti and doubles are hot favourites for locals as well as foreigners. The danger, however, is the holding temperature of the meat and channa. For, as the temperature drops into the unsafe zone (40–140° F), bacterial multiplication intensifies and the risk of food poisoning heightens. Black pudding or blood pudding, though tasty, has to be prepared extremely carefully from start to finish. Blood, as an ingredient, can be very hazardous.

All the steps of the HACCP system must be applied here to render a safe food and prevent food borne outbreaks. The World Health Organization (WHO) defines a food borne outbreak as two or more persons partaking of the same meal and showing signs of food poisoning. A food borne outbreak is now a reportable disease.

TRINIDAD AND TOBAGO

Trinidad and Tobago is the third largest consumer of poultry in the world. The number of fast food outlets has increased more than 100% in the last 10 years with chicken or poultry being the most used source for meat in Trinidad and Tobago in these outlets.

Food preparation

The 'pluckshop' operation, which is a unique feature to the Trinidad society, is really a slaughtering operation, which necessitates ante and post mortem inspections. The present operation is unsatisfactory in terms of acceptable public health practice.

The *Salmonella* organism is prevalent in poultry – meat and eggs. A study conducted jointly by The University of the West Indies (UWI), St. Augustine and CAREC identified *Salmonella* in eggs, in certain species. The preparation of poultry and eggs therefore must ensure that destruction of the *Salmonella* organism. 'Sunny side up' and raw eggs and stout for example are discouraged.

Possible effects on meat through medication/feed exist. A study in Puerto Rico queried the enlargement of breasts in children as being the result of the feed/medication given to poultry. This however is still to be proven.

Agricultural practices that are counterproductive to safe food

Abuse of pesticides

It is now common practice for a farmer to apply four or five pesticides to a single crop. This is totally unacceptable and increases the risk of pesticide poisoning to the consumer.

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Cocktails

In ignorance, 'cocktails', different combination of pesticides, are used to fight resistant strains (pests).

Watering vegetables with contaminated water

No river or stream in Trinidad is free from pathogenic organisms such as *E. coli*, nor is WASA supply available on large-scale operations in Trinidad. Hence the drive for hydroponically grown vegetables by large restaurants and hotels to ensure a safe source for their raw materials (vegetables).

Sale of fresh meat and vegetables on highways

A study led by Dr. Ivan Chang Yuen (UWI, Chemistry Dept.) showed that lead pollution from exhaust fumes of motor vehicles can contaminate food – meat and vegetables – exposed on the highway over a period of time. Cooking does not destroy this lead pollution in vegetables and meat.

Large percentage of food consumed without being processed

Over the years the processing of food, especially canned foods, has gained the confidence of the consumer market. Foods that are not processed or undergo minor process pose more risk to the consumer.

For all these reasons the need for scrutiny during growing and harvesting of crops becomes more acute. 'More food-borne pathogens can be expected because of changing production methods, processes, practices and habits' (WHO 1999). 'Genetically Modified Organisms (GMO): Pest or Pearl' appeared in an IICA publication in January 2000 (Hollingsworth 2000). I ask enquiringly, what are the health implications?

THE AGRO-TOURISM MERGER

✓ The agricultural sector has to evaluate its input into tourism. Without agriculture we know there will be no tourism. What the tourist consumes comes from the agricultural sector in the first place. The question then is how much of the unprocessed, against the processed food, is required by the tourism sector and how feasible it is for the agriculture sector to sustain the demands of the tourism sector.

One way of forming linkages would be to establish contractual arrangements with the agricultural sector that are meaningful, sustainable and mutually beneficial to both parties. //

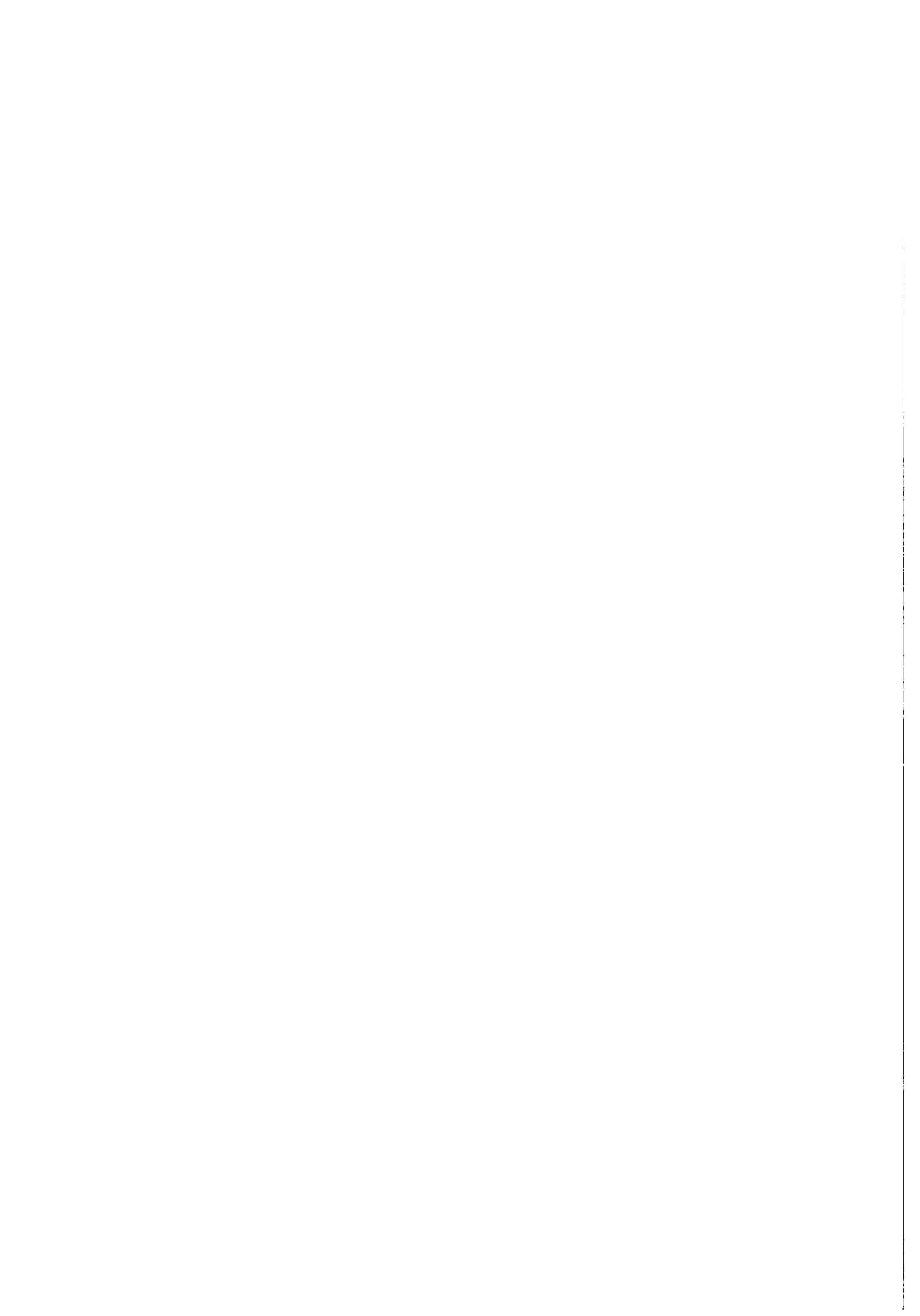
Since June 1999, Trinidad and Tobago has been unable to export fish to the European Union (EU). HACCP Certification is required before export can resume. Areas of prime concern are the boat, the landing site, transport and shipment. All of the above areas must be HACCP certified and a certified officer must perform this certification.

The circumstances that may cause food borne illnesses are controllable through implementing HACCP and SRM Programmes.

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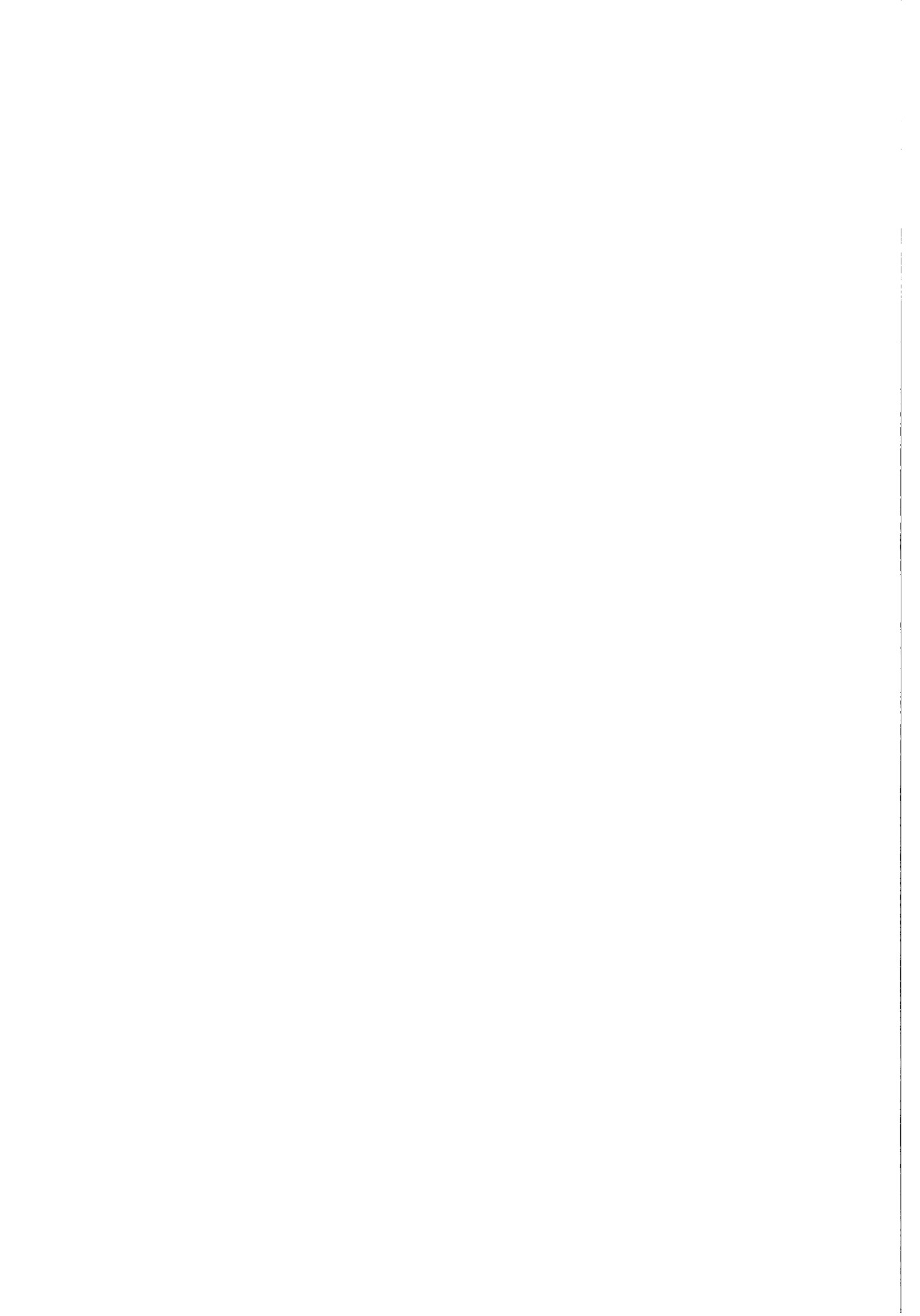
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Agro-tourism – a sustainable approach to economic growth



**WORKSHOP REPORTS
AND
RECOMMENDATIONS**





WORKSHOP REPORTS

A POLICY FRAMEWORK FOR THE AGRO-TOURISM PROCESS

Aims for the development of agro-tourism

Is a Regional aim possible and needed? While it was agreed that a regional aim is possible, careful consideration should be given to the operationalization of effective partnerships amongst Caribbean countries. It was suggested that for the Caribbean, an agro-tourism policy should aim primarily to:

- Promote sustainable economic growth and development;
- Preserve cultural heritage
- Create better standard of living for communities through ownership and/or participation in the process.

For these aims to be realized, a bottom-up approach to management is needed, with emphasis placed on the development of indigenous goods and services. In addition, there must be a framework/mechanism for collaboration and cooperation among institutions.

Objectives

Based on the aims, the following major objectives as priorities in the implementation of an enhanced agro-tourism product are recommended:

1. To diversify the existing tourism product from traditional areas such as dive tourism, eco-tourism and promotion of sites for weddings and honeymoon;
2. To more effectively utilize existing resources;
3. To foster partnerships between all stakeholders in agro-tourism; and
4. To focus on community involvement in establishing potential agro-tourism products and in the delivery of agro-tourism goods and services.

It was recognized that while the development of regional aims and objectives was needed, constraints exist since while many Caribbean countries offer similar core products, there are unique development possibilities for each country based on its cultural and natural resource base.

Policy recommendations

To achieve the development of the agro-tourism product from the consumer to the producer, the following policy framework was recommended:

1. ***Marketing Policy***

To develop research on consumer needs, market types, market segments.

2. ***Research and Development Policy***

To develop the resource capability in terms of new products, to guide farmers and communities.

3. Information Technology Systems Policy

This looks at the utilization of the Internet and Geographic Information Systems (GIS) in managing resources and getting information to potential consumers well as linking the agricultural and tourism sectors.

4. Intellectual Property Rights Policy

Local ideas and products developed should be protected if local entrepreneurs are to given an incentive to develop these.

5. Property Rights Policy

This primarily encompasses the use and management of common property resources between competing uses.

6 Education and Training Policy

All persons to be involved in the Agro-Tourism sector need to be trained in the specific needs of the sector. Primarily, the working group suggests the development of a Business Unit within TIDCO or other existing institutions which would train persons, primarily at the community level, in the use and management of resources.

6. Incentives Policy

Specific and innovative credit and tax incentives need to be put in place primarily to attract community participation.

7. Regulations Policy

Environmental Impact Assessments, cost/benefit analyses and carrying-capacity studies should be employed in making recommendations on the sustainable use of resources. In addition, compliance with ISO standards should be ensured.

8. Transportation and Infrastructure Policy

Of primary concern within the Caribbean, is the exceedingly high airfare and lengthy delays in air Travel within the Caribbean and travel from the Caribbean to outside the region. This, it was felt, greatly reduces the potential to attract both local and foreign tourists.

9. Special Issues

In addition to these broad-based policies, there might be some scope for the use of a common currency as well as the promotion of contract farming as a means to promote partnerships between hoteliers/restauranteurs and farmers within and across borders.

In summary, it was suggested that the development of agro-tourism was needed and it was needed now. Only through a partnership approach of all stakeholders and within an effective policy framework would it become a reality. Additionally, roles and functions of existing institutions should be identified and an effective coordinating mechanism developed.

B. ENTREPRENEURSHIP AND AGRO TOURISM

Agro-tourism needs to be defined within the context of taking agriculture to tourism as well as taking tourism to agriculture since both are important. A broad framework was suggested for approaching entrepreneurship with the following elements:

- Agro-tourism activities
- Consumer and food supply issues
- Financial linkage
- Service linkage

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- Added value to existing agriculture and tourism product as well as to create synergies. e.g. restaurants and organic farms in Barbados and horticulture initiatives.

Within the area of facilitation, there is a need to:

- Revisit incentive/fiscal packages to remove biases identified both for the agricultural and tourism sector so that entrepreneurship is facilitated
- Provide better and more innovation linkages e.g. Woodlands, Europe exploiting the Caribbean already through horticulture tours
- Provide the infrastructure and mechanism for identifying opportunities, sources of information and communicating that information.

The need for a strategic approach to be taken in the development of the agro-tourism potential was recognized and the following action plan suggested:

1. The sectors need to be strategically analysed to identify threats to industry that must be addressed and the opportunities to be exploited.
2. Strategies needed to be developed to exploit and add value to those products (goods and services) which already exist in both the agriculture and tourism sectors, e.g. better linkages between hotels and producers
3. Develop strategies to exploit the opportunity to offer to the tourist diverse activities and maximize the product mix.
4. Incentives and support mechanisms must be developed, and efforts made to minimize conflicts and harmonize policy (e.g. water use policy).
5. Exploit opportunities for home based tours e.g. more tours based on tourist arrivals and cruise Ships and encourage more tourists to come off the ships.
6. Promote strategies to encourage and facilitate the entry of new (young) entrepreneurs in agro-tourism e.g. by Smart Partnership philosophy.

Constraints to the agro-tourism development process, which must be addressed, were identified as:

- Production and marketing
- Economics
- Environmental
- Management

At the micro level, the group considered the need for the following:

- A systematic framework for the generation of new ideas and the development of the ideas into creative and innovative products
- Business incubators
- Access to loan facilities
- Marketing assistance, especially for new and/or young entrepreneurs
- The use of information communication technology in the agro-tourism development process
- The need to promote Caribbean food as exotic/healthy.

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C. HUMAN SOCIAL AND CULTURAL DIMENSIONS OF AGRO-TOURISM

Framework

The definition that includes the backward and forward linkages of tourism and agriculture was accepted.

The need for a concept of agro-tourism as a strategy for sustainable human development and one that should result in improved quality of life and well-being of the population was considered. The strategy is best implemented through collaborative partnerships between both sectors.

The three components of this contextual framework are:

- The socio-historical
- The socio-economic
- The human resource capacity

Socio-historical

The historical reality associated with enslavement and colonization and neo-colonization. The persistent perception of a negative connotation about agriculture. Agriculture itself has its own stigmatization. Many of our own practices and inheritances are negatively perceived.

Socio-economic

- The extent of poverty as a rural phenomenon.
- High unemployment among women and youth
- Alienation of young people from agro-tourism
- Lack of ownership of land and other resources.

Human Resource technical capacity

- The education level, skills, socialization
- Skill, knowledge of technology and information technology

Recommendations

Primarily, agro-tourism should:

- Clearly define the human resources development component
- Be people-centered
- Be community building and development oriented
- Involve education and awareness
- Make training available to community

- Develop management and entrepreneurial skills to promote self determination
- Provide accreditation/certification and review of criteria for participation
- Include inter-sectoral collaboration and humanization

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- Create collaboration between NGOs, CBOs, government, academics and the private sector.
- Utilize a mix of modern and traditional technology for enrichment and preservation of cultural heritage.

D. INSTITUTIONAL ISSUES

The definition of agro-tourism should be considered within the context of:

- (i) A market for agricultural products – production base
- (ii) Sites for tourism visits – for day or overnight
- (iii) Agricultural sites developed solely for tourism visits

Within this context, therefore an agro-tourism activity was defined as: *one which involves a production base of agricultural goods for the tourism industry, as well as the provision of day or overnight visits.*

Institutions

No new institutions were required, but more effective collaboration between existing institutions may be.

Issues

Some answers were suggested in addressing the following critical issues:

Do we have a vibrant agricultural sector?

Agro-tourism helps to promote and develop the agricultural sector.

Can the cruise ship industry provide a lucrative market?

This needs to be negotiated between producers and consumers.

Do small-scale enterprises provide a better market than larger hotels?

Yes.

Do small enterprises provide greater community well-being whereas large enterprises provide more discrete jobs?

Yes. NGOs and community organizations are important.

Do fiscal incentives encourage large enterprises? What is the tourism policy with respect to enterprise size?

Yes. Enterprises are evaluated on their own merit.

Can we use culinary arts to encourage the use of local foods?

Yes. Culinary arts can be used.

Is the training for the hospitality industry adequate in this regard?

No. More adequate training is required.

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Have we tried to promote local meat on health issues so that they have less fat?

No. Promotion of local meat has been inadequate.

Can the provision of fiscal measures be used to force use of local foods?

Yes, but these measures and how far they can be used needs to be defined.

Is the quality of local agricultural produce below the standard required by hotels?

Yes – in some instances. Standards, regulations, and extension services are required.

Is food security important and will this affect food supply to hotels?

No.

What regulations will be required if a food industry is to supply hotels?

Standards – HACCP and ISO 9000. Bureau of Standards standards.

How important are land issues in food production and is there competition for resources between the tourism and agricultural sectors?

Security of tenure will determine the type of crops produced.

There is conflict of land-use for the two types of development.

Legislation

With respect to the issue of legislation, the group recommended legislative support in the following areas:

- Ownership of available lands, and security of tenure.
- Standards
- Incentives for Organic farming

Human Resource Development

Training is required for farmers and culinary artists.

Market Promotion

Policy will dictate which market segment is encouraged.

WORKSHOP RECOMMENDATIONS

EMERGING ISSUES

The following issues emerged as critical:

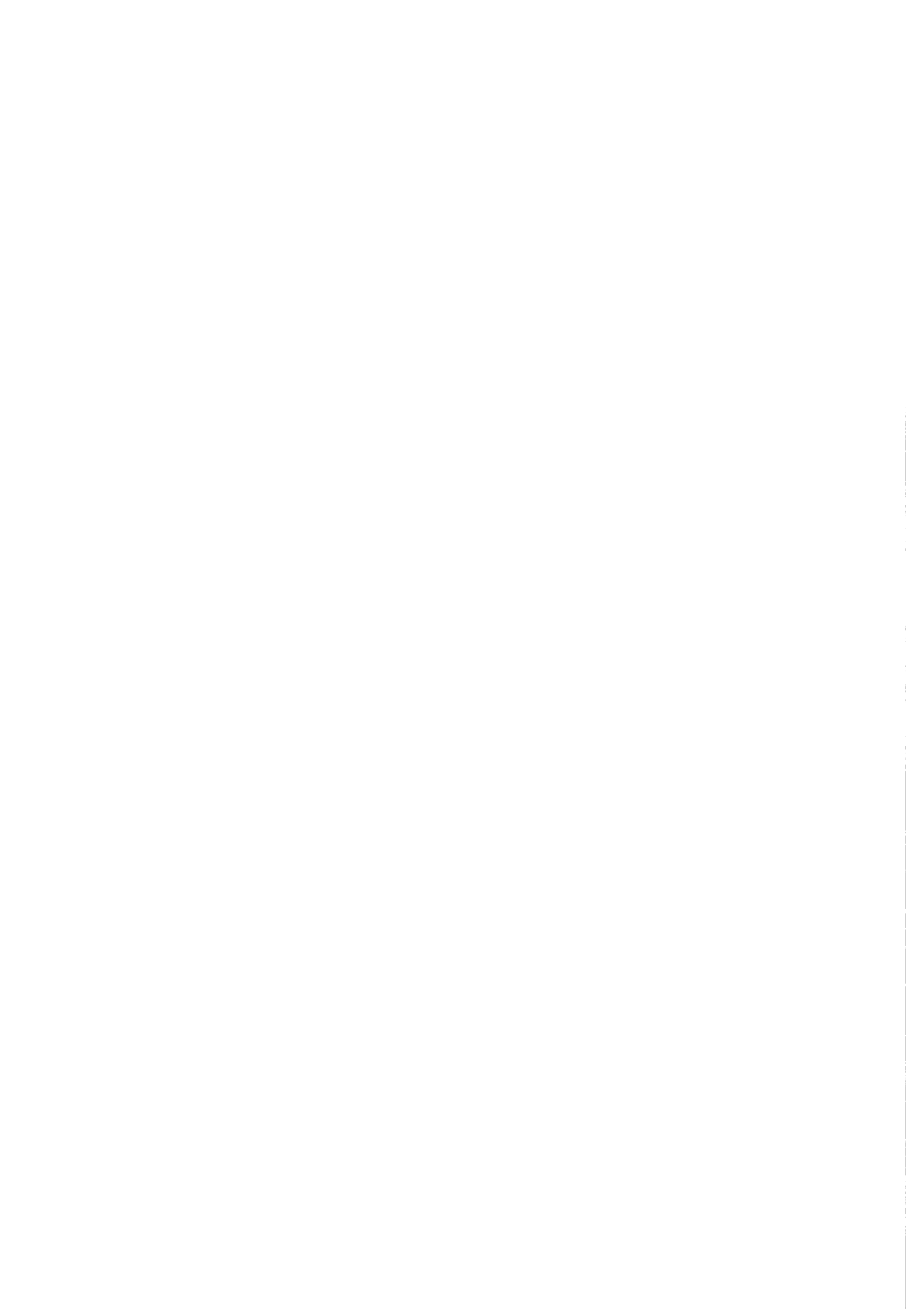
- A consensus on a definition of agro-tourism is needed.
- There must be local participation in, and benefit from, agro-tourism initiatives.
- There is a need for public education and awareness programmes.
- Cost benefit analyses are required, especially related to possible negative impacts.
- There may be no need for new institutions to support agro-tourism strategy; but there is urgent need for instruments of collaboration and cooperation between existing institutions.

RECOMMENDATIONS: THE WAY FORWARD

The following recommendations were made:

- That agro-tourism be defined as: *An integrated set of actions involving agriculture and tourism.*
- That any national agro-tourism strategy be community-based, thereby ensuring the participation of, and benefit for, local communities. This could include 'adopting' selected communities.
- That public education and awareness programmes be an integral part of strengthening agro-tourism linkages.
- Education policies should be re-oriented to support and encourage agro-tourism initiatives, particularly those of young people. National and regional training institutions should be encouraged to include agro-tourism and entrepreneurship as a part of the curriculum.
- That national legislation be reviewed and support mechanisms be established to evaluate, monitor and minimize potential negative impacts of agro-tourism development.
- A shared vision is essential. There must be more effective collaboration and strategic alliances between key interest groups, both between sectors and within sectors.
- A programme of national consultations to develop plans for future action should be organized in order to prepare and plan for agro-tourism development within the rapidly changing economic climate associated with trade liberalization and WTO agreements.

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APPENDICES

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APPENDIX 1

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Agricultural Development Bank (ADB)

Caribbean Agricultural & Research Development Institute (CARDI)

Food and Agriculture Organization of Trinidad and Tobago (FAO)

Ministry of Agriculture, Land & Marine Resources (MALMR)

The Inter-American Institute for Cooperation on Agriculture (IICA)

The University of the West Indies (UWI)

Tobago House of Assembly (THA)

Tourism and Industrial Development Corporation of Trinidad and Tobago Ltd. (TIDCO)

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VENEZUELA

Enrique Liendo
Vice Minister of Tourism

Ministry of Tourism

APPENDIX III

ACRONYMS AND ABBREVIATIONS

AIT	Alliance Internationale de Tourisme
ADB	Agricultural Development Bank
CARDi	Caribbean Research and Development Institute
CAREC	Caribbean Epidemiology Centre
CARICOM	Caribbean Common Market
CARIRI	Caribbean Industrial Research Institute
CDB	Caribbean Development Bank
CDC	Caribbean Development Corporation
CHHP	Caribbean Healthy Hotel Programme
CIF	Caribbean Investment Fund
CTO	Caribbean Tourism Organization
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMA	Environmental Management Authority
EU	European Union
FAO	Food and Agriculture Organization
GATT	General Agreement on Tariff and Trade
GDP	Gross Domestic Product
GIS	Geographic Information System
HACCP	Hazard Analysis and Critical Control Points
IADB	Inter-American Development Bank
IICA	Inter-American Institute for Cooperation on Agriculture
IMA	Institute of Marine Affairs
IMF	International Monetary Fund
IT	Information Technology
IWMI	International Water Management Institute
MALMR	Ministry of Agriculture Land and Marine Resources, Trinidad & Tobago
NEP	National Environmental Policy
NGO	Non-Government Organization
OAS	Organization of American States
OECS	Organization of Eastern Caribbean States
PAGIS	Participating Approaches and Geographic Information Systems
PAHO	Pan-American Health Organization
PPGIS	Public Participation Geographic Information Systems
PRDI	Policy Research and Development Institute
TA	Technical Assistance
THA	Tobago House Assembly
TIDCO	Trinidad and Tobago Industrial Development Corporation
UEA	University of East Anglia
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme

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UN ECLAC	United Nations Economic Commission for Latin America and the Caribbean
UWI	University of the West Indies
VAT	Value Added Tax
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

