

# TOURISM ECONOMICS SUMMARY



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# Tourism Economics Summary

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Tourism is a global force for economic and regional development. Tourism development brings with it a mix of benefits and costs and the growing field of tourism economics is making an important contribution to tourism policy, planning and business practices. During the life of the STCRC a series of research reports have been published putting forward a range of new perspectives and methods which have advanced the global understanding of tourism's contributions to destinations, resource use, evaluations and business practices.

## 1. Economics and Tourism

Tourism is a major industry globally and a major sector in many economies. According to the United Nations World Tourism Organisation (UNWTO), over the past six decades, tourism has experienced continued growth and diversification to become one of the largest and fastest growing economic sectors in the world. The World Travel and Tourism Council (WTTC) estimate that tourism contributed 9.2 per cent of global GDP and forecasts that this will continue to grow to grow at over 4 per cent per annum during the next ten years to account for some 9.4 per cent of Gross Domestic Product (GDP) (WTTC 2010). Over time, an increasing number of destinations have opened up and invested in tourism development, turning modern tourism into a key driver for socioeconomic progress.

The expenditure associated with tourism flows makes a substantial economic contribution to the Australian economy nationally, by state and by region. In Australia, for example, tourism makes a direct contribution to the economy of \$40.639 million in GDP or 3.6% of total GDP and 4.7% of total employment (Australian Bureau of Statistics [ABS] 2009). These figures increase by a further \$31 billion and 377,000 jobs with the inclusion of indirect economic contributions (Pambudi, et al. 2009). Changes in this expenditure resulting from shifting destination market shares will impact on export earnings with further changes to GDP and employment. This in itself indicates the importance of an understanding of the role that tourism economics can play in policy formulation (Dwyer, Forsyth & Dwyer 2010).

Much of the tourism literature today appreciates the importance of developing tourism 'sustainably'. Whatever the precise meaning of this term, an essential element of a sustainable tourism industry is economic viability. It is sometimes forgotten that the concept of sustainability has an economic dimension alongside its social and environmental dimensions. Economic efficiencies result in less use of resources with potentially less adverse social and environmental impacts from their use. Tourism development is fundamentally driven by business. However, governments play a significant role as partners in tourism development to an extent which is not replicated in most other industries through their extensive engagement, by all levels of government, in tourism planning and strategy, marketing, infrastructure development, land use planning and responsibility for parks and public and natural attractions, and through their role in managing environmental and community impacts of tourism. The more comprehensive our understanding of the economic issues associated with tourism is, as reflected in the decisions made by tourism operators and policies enacted by destination managers, the more able are economic efficiencies to be achieved in the overall objective of sustainable development of the industry.

## 2. Measuring Tourism's Economic Contribution: Tourism Satellite Accounts

Tourism has grown substantially over recent decades as an economic and social phenomenon. Unfortunately, the development of statistical concepts and frameworks for tourism has not kept pace with the changes in the nature and significance of tourism worldwide and its potential for future growth. The problem with measuring the economic significance of tourism spending is that 'tourism' does not exist as a distinct sector in any system of economic statistics or of national accounts. As a result, tourism's value to the economy is not readily revealed. Tourism activity is "hidden" in other industry activities (accommodation, transportation, telecommunications and so on). Tourism's economic contribution can be measured, however, through the construction of Tourism Satellite Accounts (TSA). TSA extract from the National Accounts the contribution that tourism makes to each other sector of the economy allowing measurement of the true contribution of tourism to GDP or Gross State Product (GSP) and permitting comparison with other economic sectors listed in the national accounts. In TSA, the "tourism industry" is identified from the demand side by measuring the demand for various commodities. This makes it possible to form a link to the supply side of the tourism industry through the identification of tourism commodities and hence to the industries which are characteristic of, or connected to, tourism and to calculation of their relative dependence on tourism generated demand.

TSA provide an internationally recognized and standardized method of assessing the scale and impact of tourism related production and its links across different sectors. TSA can provide a comprehensive database which identifies tourism's role in an economy and provides a rigorous and reliable basis for drawing comparisons between tourism and other sectors in terms of their contribution to the economy, as well as international comparisons. They provide an invaluable tool for measuring and monitoring the development of tourism and assessing its economic contribution. Countries in which TSA have been implemented are able to gain a much clearer picture of tourism's position within their economy and are thus able to evaluate more accurately the benefits it offers. Such information is the prerequisite to efficient and effective policy decisions to guide the future development of tourism. In addition, they provide a foundation for more sophisticated analyses of the impact of tourism and the assessment of different policy regimes using techniques such as computable general equilibrium modelling.

While a TSA is primarily a national level concept constructed within a country's system of national accounts, many of the key decisions in planning and development and management of tourism occur at the local and regional level and are the responsibility of state or local governments, regional destination management organisations and local businesses. The concepts, definitions and methods used in constructing TSA are now being extended develop TSA based estimates of tourism's economic contribution at the sub-national level in some countries, providing valuable information for planning and decision making for tourism destinations. Worldwide, regional governments are developing tourism plans to maximise the opportunities for income and employment growth resulting from an expanding tourism industry. This presents tourism economists with opportunities to investigate tourism's contribution to sub-regions. This has traditionally been a neglected research area given previous data limitations. In Australia, STCRC has played a key and to some extent pioneering role in extending the national Australian Tourism Satellite Account (ATSA) down to state level having developed and published TSA for the Australian states and territories for the years 2003-04, 2006-07 and 2007-08 (Spurr, et al. 2007; van Ho, et al 2008 ; Pambudi, et al. 2009).

Regional measures of tourism's economic contribution (regional TSA) are likely to proliferate over the coming decade as governments and economic researchers develop tools for analysing tourism economics at this level. An important objective is for such measures to use consistent concepts, definitions and methodologies to national level estimates in order to ensure their credibility and comparability. In a further development of the extension of TSA estimates to the state level in 2010 STCRC also published a set of

regional tourism economic accounts for nine tourism regions in the state of Queensland (Pham, Dwyer & Spurr 2009; Pham, Dwyer, Spurr, Ruhanen & Scott 2008; Pham, Dwyer & Spurr 2010).

Other extensions of the TSA methodology include estimation of the wider flow on effects of tourism across the economy (indirect effects). The TSA, based as it is on the direct contribution of tourism, measures only the effects of direct transactions between the visitor and a domestic supplier of a tourism good or service. Tourism Research Australia has extended this by producing estimates of the total, direct plus indirect, contribution of tourism economy. STCRC research further extended these estimates to the state and territory level in its 2005 report on the indirect contribution of tourism (van Ho, et al. 2007). These estimates were subsequently incorporated into STCRC's annual state and territory TSAs.

There remains substantial scope for using the TSA methodology as a structure for more detailed breakdown of the information they provide. This includes in areas such as tourism's use of human resources and its contribution to capital formation. STCRC has also used the TSA methodology to develop detailed estimates of taxation from tourism by type of tax and level of government in receipt of the revenue (Forsyth, et al. 2007). TSA also provide a starting point for other more comprehensive approaches to analysing the overall economic impact of tourism. Researchers have substantial opportunities to develop and compare different measures of tourism yield using TSA. Several measures of tourism yield have been developed by STCRC researchers using the data contained in TSA. These include expenditure per tourist, return on capital, profitability, GDP, value added, and employment. Given that TSA distinguish the numbers and expenditure of different tourist markets by origin the yield contribution measures can be developed per tourist by origin market (Dwyer, et al. 2006; Dwyer, et al. 2007). The research reveals that the targeting of tourism marketing is much more complex than simply reaching out to 'high-yield' markets. Adding environmental and social dimensions to the yield concept, the decision makers have to deal increasingly with trade-offs between economic and environmental and social dimensions, respectively. The STCRC research further identifies the manner in which the concept of yield can be broadened to embrace sustainable yield by incorporating measures of environmental and social impact (Dwyer, et al. 2006; Dwyer & Forsyth 2008; Lundie, Dwyer & Forsyth 2007).

TSA can be used to develop performance indicators such as measures of productivity, prices and profitability for the tourism industry as a whole. They can also be used to explore performance in individual sectors. Tourism researchers now have the data to explore the performance of individual tourism sectors or of the entire tourism industry relative to that of other industries, domestically and internationally. The STCRC has published some studies of tourism productivity using TSA (Dwyer, Forsyth & Spurr 2007a; Dwyer, Forsyth & Spurr 2007b; Dwyer, Forsyth, Spurr & van Ho 2007).

TSA provide the opportunity for tourism economists to contribute to our understanding of the 'carbon footprint' associated with the tourism industry. The advantage of using the TSA to estimate the carbon footprint is that it ensures that the measure is comprehensive, and incorporates all emissions from all industries which make up tourism. That is, if the relationship between industry production and greenhouse gas (GHG) emissions is known, then it is possible to calculate the emissions which are due to tourism, as measured by the TSA. In addition, since the TSA is extensively used as a measure of the economic contribution of size of the tourism industry, this carbon footprint is an environmental measure which is consistent, in terms of definition of the industry, with the economic measure. STCRC researchers have explored the issues in estimating the GHG emissions from the tourism industry and related activity in Australia (Forsyth, et al. 2008). The scope of tourism consists of the economic activities defined as 'tourism characteristic' and 'tourism connected' as defined in the ATSA. Two approaches were employed and contrasted- a 'Production Approach' and an 'Expenditure Approach'. Depending on the approach, tourism contributes between 3.9 per cent and 5.3 per cent of total industry GHG

in Australia. The GHG emissions have been estimated for 2003-04, the latest year for which detailed industry GHG emissions data are available in a form suitable for this type of analysis. Tourism's GHG emissions are compared with other industries in the Australian economy. Depending on inclusions and exclusions tourism ranks between 5th and 7th of all Australian industry in respect of its volume of carbon emissions (Forsyth, et al. 2008).

STCRC has also extended this analysis to estimate tourism carbon footprint at the regional (state) level for the state of Queensland using a methodology which is readily replicable using the state and territory TSA for other Australian states (Hoque, et al. 2010).

Estimation of tourism's carbon footprint represents a starting point for the development of industry strategies to mitigate and adapt to climate change. If tourism industry stakeholders are to play their role in reducing industry GHG emissions alongside other industries as part of a comprehensive post-Kyoto global climate change response framework, knowledge of overall emissions and the emissions by industry sector are essential to informed debate on policy. It should be possible to adopt a broadly similar method for any destination with a TSA enabling tourism stakeholders to play an informed role in assessing appropriate climate change mitigation strategies for their destination.

### **3. The Application of More Sophisticated Modelling Tools: Computable General Equilibrium (CGE) Modelling**

TSA are not in themselves modelling tools for economic impact assessment. Tourism's economic impact refers to the changes in the economic contribution that result from specific events or activities that comprise 'shocks' to tourism demand. These changes generate three types of impacts or effects: direct impacts, indirect effects and induced effects. To estimate the economic impacts an economic model is needed. The impact of higher visitor spending is highly sensitive to the assumptions one makes about the economy. STCRC research has emphasised that economy wide effects must be taken into account in determining the impacts of increased tourism expenditure on a destination. An expanding tourism industry tends to 'crowd out' other sectors of economic activity. The extent of these 'crowding out' effects depends, in turn, on factor constraints, changes in the exchange rate, the workings of labour markets and the macroeconomic policy context (Dwyer, Forsyth, Madden & Spurr 2000; Dwyer, Forsyth, Spurr & van Ho 2005).

The study of the economic impacts of tourism shocks has recently undergone a 'paradigm shift' as a result of the use of computable general equilibrium (CGE) models in place of input-output (I-O) models. CGE models are constructed as a series of markets (for goods, services and factors of production), production sectors and demand groups (households). Each market, sector and household has its own set of economic rules that determine how it reacts to external changes. CGE models consist of a set of equations that characterize the production, consumption, trade and government activities of the economy. CGE models recognize resource constraints and consider the demand, price and income effects flowing from government policies and structural changes in the economy. They incorporate all input-output mechanisms; they incorporate mechanisms for potential crowding out of one activity by another, as well as for multiplier effects. CGE models can guide policy makers in a variety of scenarios arising from a range of domestic or international shocks or alternative policy scenarios. They can be tailored to allow for alternative conditions such as flexible or fixed prices, alternative exchange rate regimes, differences in the degree of mobility of factors of production and different types of competition. The strengths of the CGE approach to assessing the economic impacts of changes in tourism expenditure are many and varied and include the ability: to model business and household demand for goods and services, relative price changes and substitution effects; to take account of the interrelationships between tourism, other sectors in the domestic economy and foreign producers and consumers; to incorporate endogenous price determination mechanisms; to identify and test underlying assumptions; to allow initial expenditure shocks to originate from anywhere

in the economy (Dwyer, Forsyth, Madden & Spurr 2000; Dwyer, Forsyth, Spurr & van Ho 2005).

The STCRC has been a world leader in respect to using CGE models for estimating the economic impacts of tourism shocks. Studies undertaken include the economic impacts on state economies of increased inbound tourism (Dwyer, Forsyth, Spurr & Van Ho 2003; Dwyer, Forsyth, Spurr & van Ho 2006); the economic impacts of SARS on Australian tourism (Dwyer, Forsyth, Spurr & van Ho 2003, Dwyer, Forsyth & Spurr 2006c; Dwyer, Forsyth & Spurr 2006c); the economic impacts of a special event (Dwyer, Forsyth & Spurr 2005; Dwyer, Forsyth & Spurr 2006a; Dwyer, Forsyth & Spurr 2006b); yield measures of different inbound markets that take into account industry interactive effects (Dwyer, et al. 2006; Dwyer, et al. 2007; Dwyer & Forsyth 2008), and economic impacts of taxes on aviation (Dwyer, Forsyth & Spurr 2004). CGE models are helpful to tourism policy makers who seek to use them to provide guidance about a wide variety of 'what if?' questions, arising from a wide range of domestic or international expenditure shocks or alternative policy scenarios (Dwyer, Forsyth & Dwyer 2010).

## 4. Economic Analyses of Destinations

The factors influencing tourism demand have been studied by STCRC researchers. The results strongly indicate that migration patterns have a substantial influence on tourism flows to and from Australia (Dwyer, Forsyth, King & Seetaram 2010; Seetaram & Dwyer 2009). Kulendran and Dwyer (2008; 2009) use a cost-effectiveness approach to assess the effectiveness of the marketing expenditure of Australia in key source markets. The effects of tourist dispersal into regional areas have been studied by Koo, Wu and Dwyer (2010a; 2010b).

## 5. Valuation of Environmental Resources

The environment is important in attracting tourism flows with their attendant economic effects. Conservation of valued environmental features can help to maintain tourism visitation and tourism's contribution to the economy. Tourists, however, can also "love the environment to death", impairing the very thing that attracts them and bringing about its deterioration and destruction. Satisfactorily resolving this problem is important to the tourist industry, especially given a limited (and dwindling) supply of pristine environments and with tourism demand expected to grow into the future. Determining, enumerating and measuring environmental costs and benefits can be very challenging.

Tourism affects the environment through its interplay with *natural, human, and built resources*. Tourism impacts on the environment are both direct and indirect, and often are not easily observable. Conversely, the range and quality of such resources can influence tourism flows. Thus, attention to environmental features of the tourism experience can result in an outward shift of tourism demand thereby increasing producer surplus. Over development, however, can impose costs on industry stakeholders as well as the wider community.

Market prices serve as signals or incentives to guide resources and products into their most highly valued uses. If there are no markets for some valuable resources and products or if markets do not function properly, the resulting resource allocation will not be optimal. There are three major sources of market failure that are relevant to the environmental impacts associated with tourism. These relate to lack of property rights to environmental resources, public goods and externalities. The inevitable result is overuse, abuse, congestion and quality degradation of increasingly scarce environmental resources.

The total economic value of a tourism environmental amenity is composed of its use value (actual use value) and non-use value. Components of non use value are option, quasi-option, existence, bequest, and vicarious value. Within this framework of thinking, the environmental impacts of tourism activity may be measured either directly (through their

obvious price effects in the marketplace) or indirectly (through the construction of proxy prices).

Economic aspects of measuring the impacts of various planning scenarios for tourism development in the environmentally sensitive Ningaloo Reef Region of Western Australia have been examined using the STCRC's examined using an analysis of tourism's regional economic contribution based on STCRC's TSA methodology (Jones, et al. 2010).

## 6. Economics and Climate Change

Human-induced climate change is an externality on a global scale which, in the absence of policy intervention, is not 'corrected' through any institution or market. Climate change is one of the greatest market failures the world has seen. It presents a global challenge that requires a long-term global solution in order to avoid environmental, social and economic dislocation. The climate is a public good. Those who fail to pay for contributing to GHG emissions cannot be excluded from enjoying climatic benefits and one person's enjoyment of the climate does not diminish the capacity of others to enjoy it also. Markets for relevant goods and services (energy, land use, innovation, and so on) do not reflect the full costs and benefits of different consumption and investment choices for the climate

Typically, tourism and climate change has been considered as 'a two-way street'. The same as for other industries, the tourism industry contributes to climate change through its generation of GHGs to meet tourist needs. Climate change, in turn has increasing substantial effects on tourism flows, shifting market shares of domestic and international destinations (Forsyth, et al. 2008).

Climate change will directly impact on a country's tourism industry and the benefits it creates through loss or degradation of attractions, the costs of adaptation and replacement of capital infrastructure. Climate has a major influence on destination choice. As a result of changing climatic conditions, tourists are likely to entirely avoid some destinations in favour of others or else shift the timing of travel to avoid unfavourable climate conditions. Climate change generates both negative and positive impacts in the tourism sector and these impacts will vary substantially by market segment and geographic region. There are 'winners and losers' at the business, destination and nation level. Countries which rely heavily on nature based tourism are likely to be net losers from changing international patterns of tourism as a result of climate change. However, tourism is a footloose export industry, and both suppliers and consumers will cross borders to the extent that a destination becomes less attractive due to climate change.

Tourism generates a carbon footprint both directly (through greenhouse gas emissions associated with production of a tourism service) and indirectly (through greenhouse gas emissions associated with the supply of inputs into tourism production). The carbon intensity footprint of tourism refers to the GHGs directly and indirectly associated with tourism activity. The carbon impact footprint of tourism refers to how changes in tourism impact on overall GHGs – this depends on its carbon intensity and also on how other industries are impacted on by changes in tourism. Estimation of tourism's carbon impact requires CGE modelling to determine the net changes in the outputs of different industries in the economy. Most policy questions are questions about impact not just intensity. Tourism will be affected by the different types of climate change mitigation policies, all of which will increase the cost base of tourism firms. STCRC have produced estimates of the economic impacts of introduction of a price for carbon on the tourism industry in Australia based on the proposals contained in the Australian government's proposal for a Carbon Pollution Reduction Scheme (Hoque, et al. 2010).

Economic impacts of adaptation to climate change in five regions of Australia have also been estimated to 2070 as part of a wider STCRC study on Climate Change adaptation (Pham, Simmons & Spurr 2010; Sustainable Tourism Cooperative Research Centre [STCRC] 2009; Turton, Hadwen & Wilson 2009).

Tourism can and must play a significant role in addressing climate change as part of its broader commitment to sustainable development and the United Nations Millennium Development Goals (<http://www.un.org/millenniumgoals/>). Economic analysis can contribute to our understanding of the different types of issues raised by climate change, in policy formulation, and in analysing the implications for tourism.

## 7. Future Prospects

Given the development of TSA worldwide it can be expected that more research will be undertaken on tourism's economic contribution to a destination. TSA allow the tourism industry to be better included in the mainstream of economic analysis. Tourism's total economic contribution (both direct and indirect) measures the size and overall significance of the tourism industry within an economy. The research literature may now be expected to contain more studies that compare and analyse the contributions that tourism and its component industries make to key variables such as GDP, value added and employment. TSA provide policy makers with insights into tourism and its contribution to the economy providing an instrument for designing more efficient policies relating to tourism and its employment aspects. As a result of basing more of their research in analysing data from TSA, the outputs of tourism economists should become even more relevant to the information needs of destination managers.

TSA provide the basic information required for the development of models of the economic impact of tourism. For example, analysts may use data from TSA to estimate the direct effect of changes in tourism consumption on other industries or on employment. In helping governments and businesses determine the value of tourism to the economy, TSA can also aid in the formulation of strategies for ensuring competitive advantage in this sector. Regional TSA present tourism economists with opportunities to investigate tourism's contribution to sub-regions. This has traditionally been a neglected research area given previous data limitations. Tourism economists also have a role to play in analysis of the advantages and disadvantages of 'top down', 'bottom up' and 'hybrid' approaches to the construction of regional TSA. TSA can also be used to develop measures of tourism yield. Researchers have substantial opportunities to develop and compare different measures of tourism yield using TSA. Given that TSA distinguish the numbers and expenditure of different tourist markets by origin the yield contribution measures can be developed per tourist by origin market.

A relatively neglected research topic has been measures of tourism productivity at the industry level. TSA can be used to develop performance indicators such as measures of productivity, prices and profitability for the tourism industry as a whole. They can also be used to explore performance in individual sectors. Tourism researchers now have the data to explore the performance of individual tourism sectors or of the entire tourism industry relative to that of other industries, domestically and internationally.

One of the fundamental challenges for tourism into the future is to adapt to climate change and to meet the responsibilities that all industries have in respect of mitigating GHG emissions. TSA provide the opportunity for tourism economists to contribute to our understanding of the 'carbon footprint' associated with the tourism industry. The advantage of using the TSA to estimate the carbon footprint is that it ensures that the measure is comprehensive, and incorporates all emissions from all industries which make up tourism. That is, if the relationship between industry production and GHG emissions is known, then it is possible to calculate the emissions which are due to tourism as measured by the TSA. In addition, since the TSA is extensively used as a measure of the economic contribution of size of the tourism industry, this carbon footprint is an environmental measure which is consistent, in terms of definition of the industry, with the economic measure.

The topic of economic impact analysis has engaged tourism economists for decades. An economic impact analysis estimates the changes that take place in an economy due to some existing or proposed project, action or policy. A major objective of such estimates has

been to inform policy makers as to the appropriate allocation of resources both within the tourism sector itself and between tourism and other industry sectors. Given the advances in CGE modelling over the past decade and a half, which STCRC researchers have contributed to, tourism economists now have the opportunity to play a much more important role in providing information that destination managers can use in policy formulation. CGE models can guide policy makers in a variety of scenarios arising from a range of domestic or international shocks or alternative policy scenarios. They can be tailored to allow for alternative conditions such as flexible or fixed prices, alternative exchange rate regimes, differences in the degree of mobility of factors of production and different types of competition. CGE models can be used to quantify the effects of actual policies, such as changes in taxation, subsidies or government borrowing, as well as predicting the effects of a range of alternative policies or exogenous expenditure shocks. CGE models are helpful to tourism policy makers who seek to use them to provide guidance about a wide variety of 'what if?' questions, arising from a wide range of domestic or international expenditure shocks or alternative policy scenarios. In tourism, very interesting results have emerged using this technique in areas as diverse as tourism taxation, the impacts of special events, policies in response to human induced tourism crises (terrorism) and other crises affecting tourism destinations (e.g. SARS, foot and mouth disease). Tourism researchers have recently applied CGE modelling to determine who gains and who loses from tourism development together with analysis of the extent to which tourism growth alleviates poverty. Clearly different research projects can be done in this area to improve our understanding of tourism's impacts on both developed and developing economies.

As a result of the development of CGE models, changes are expected in the economic impact assessment of special events. Perhaps more than in any other area, tourism economists seem still uncritically wedded to an assessment method based on I-O multipliers which gives exaggerated impacts for special events. Tourism economists have an important role to play in researching the effects of the workings of labour markets, government subsidies and taxes on event impacts as well as the distributional effects associated with large events. Given that government funding agencies are now demanding that event evaluation be undertaken using state of the art techniques it can be expected that evaluation of special events will increasingly incorporate CGE modelling of the economic impacts and Cost Benefit Analysis of the wider economic, social and environmental effects.

Whatever the specific topics that researchers will address in the coming years it is clear that tourism economics provides a fertile ground for research with the potential to inform policy making to improve socio-economic prosperity in all destinations worldwide. Further research is required as to how tourism yield can be usefully incorporated into the sustainability paradigm.

Changing global trends (economic, social, demographic, political, technological and environmental) will continually pose challenges to economic theory and policy and the ways we analyse tourism activity. Whatever the specific topics that researchers will address in the coming years it is clear that tourism economics provides a fertile ground for research with the potential to inform policy making to improve socio-economic prosperity in all destinations worldwide. Research undertaken by the STCRC (Dwyer, et al. 2008; Dwyer, Edwards, Mistilis, Scott & Roman 2009; Dwyer & Edwards 2009) can provide a strategic vision for both public and private sector tourism management.

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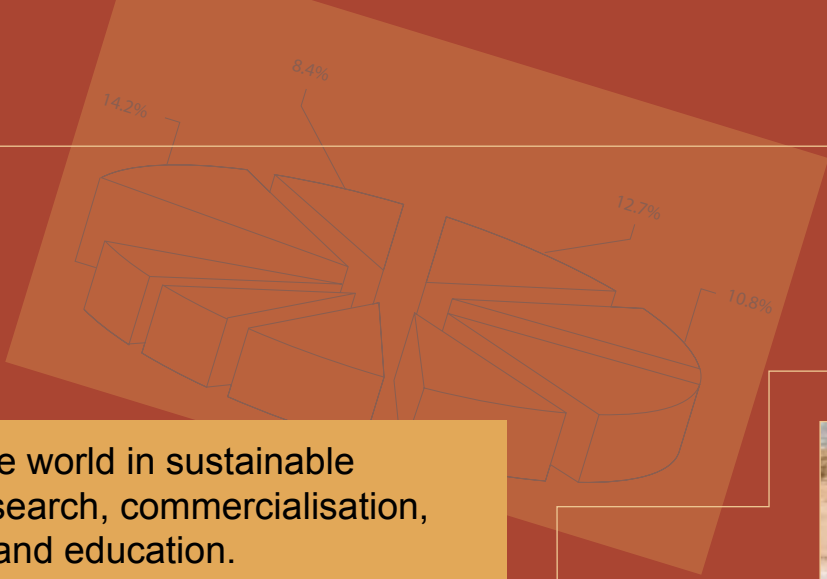
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