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# Managing Watersheds for a Better Future

## POLICY BRIEFING NOTE

### Introduction

Watersheds provide environmental services which support economic activities and livelihoods. To secure these services for future generations, it is important to manage them holistically, taking account of the impacts of all activities within the river itself, and the surrounding land. Intersectoral cooperation should be seen as a focus of economic development, and watershed management as an important area of national policy. Society has a responsibility to maintain ecosystem integrity, and 'wise use' of water requires precautionary principles to be applied. These can be embedded in decision-making by ensuring financial investment appraisal is not the only tool used for that task. Raising public awareness about water issues is an important prerequisite to more effective water management. Individual responsibility for the environment and water conservation strategies need to be promoted. The natural capital value of ecosystem services must be identified and captured, although the science of watershed interactions is still poorly understood. Institutional development is also needed to provide support for other new initiatives such as water recycling and re-use.

### Current problems

The lack of institutional capacity and the need for environmental education are currently constraints to the achievement of sustainable development. Lack of public awareness and responsibility gives rise to unnecessary environmental damage which can be avoided by addressing this. There is a need for more stakeholder consultation to achieve 'bottom up' decisions which can be more effectively introduced. Wider implementation of conservation farming practices is needed, along with strengthening of institutional capacity for watershed management. Economic instruments are needed to encourage the appropriate behavioural change necessary to implement the process of Integrated Water Resource Management (IWRM). This will not only facilitate more equitable water management, but will also support the international conventions on biodiversity, climate change, etc. to which the Nation is committed. Grenada is also committed to the achievement of the Millennium Development Goals<sup>1</sup> (MDGs) to enhance food security, improve water access, and reduce poverty. The development of a more integrated land and water policy is needed to help to achieve these goals.

<sup>1</sup> These are the agreed targets set by the United Nations, and signed at the World Summit on Sustainable Development, Johannesburg, 2002.

### Research findings

1. This study has clearly shown that when people spend a lot of time collecting water, household welfare tends to be lower. There is no evidence that providing more water will directly influence household incomes, as water is not usually a constraint to production in Grenada, but it is clear that better access to water will reduce negative health impacts, and will release household labour for other purposes. In addition, this increase in human capital will have a positive overall benefit for the economy. Women and children in particular will benefit from improvement of access, and more small-scale water storage facilities will prevent the seasonal shortages which are currently observed, particularly in the dry season, or when downstream demand from coastal activities is high.
2. In terms of water quality, awareness raising at all levels will help to build more public responsibility to reduce contamination of water courses. The introduction of riparian buffer strips would have a positive impact on the degree of sedimentation and pollution from agrochemicals, and this will have a positive benefit for NAWASA in terms of reduced costs of removal. These savings can be passed to those farmers who introduce best farming practices within the watersheds. The value of these compensation mechanisms can be determined by examining the losses faced by farmers as a result of crop losses from buffer strips, coupled with cost savings made by reductions in water purification costs.

3. There is clear evidence that watershed services impact on quality of life, and their ecological integrity can be maintained by developing appropriate economic instruments for environmental management. The '*Riparian Compensation Mechanism*' and '*Watershed Sustainability Fund*' are two examples of such instruments, and these have been discussed and evaluated by a wide range of stakeholders in Grenada<sup>1</sup>. To consolidate this further, work should be done to establish the database and monitoring system appropriate for this to be put in place and, in so doing, this will provide support to the longer-term process of establishing the '*Natural Capital Accounts*' associated with genuinely sustainable National Income Accounting<sup>2</sup>

4. While this is an important step forward, it is also important to note that there is also much to be done in terms of increasing the efficiency of water management in other ways. In particular, the issues of infrastructure leakage and metering need to be examined. The development and implementation of tools to effectively manage Grenada's forests and natural beauty (on which most of the economy depends) will contribute to the process of establishing a continuous flow of economic benefits from the natural capital resources of Grenada.

<sup>1</sup> See Jackson et al., *Managing Watersheds for a Better Future* CEH Research Report. 2004.

<sup>2</sup> United Nations Statistical Office (1993) *Handbook of National Accounting. Integrated Environmental and Economic Accounting*. Studies in Methods. Series F, No.61. United Nations Statistical Office, New York.

### **POLICY RECOMMENDATIONS**

In Grenada and its islands, water is perceived as a fundamental human right. It is considered to have important economic significance, and instruments for its management need to be strengthened within the Grenada National Economic Development Plan. A watershed awareness campaign is needed to empower local people to participate more meaningfully in the decision-making process. There is a need for consistency and transparency in water policy development and decision-making. A more structured strategy of water data collection and management is needed. Legislation relating to watershed use should be strengthened and enforced. While more research into the relative supply and demand for water is needed at the national (and inter-island) level, the introduction of watershed scale data collection and monitoring will contribute to the ability of the government to manage the resource in a sustainable way. Institutional strengthening and the development of multi-sectoral linkages will generate best use of such data resources, and policy review may be productive in generating a more integrated and equitable water management strategy. Better leakage management and the promotion of water efficiency systems (though fiscal incentives) is recommended. Enforcement of penalties for pollution infringements could signal the importance given to the issue by the government. Climate change impacts in water resources should be considered. There would be merit in testing the *Riparian Compensation Scheme* and the *Watershed Sustainability Fund* in a selection of pilot locations around Grenada before full implementation. This would facilitate the site-specific refinements necessary to make the system robust.

#### **Watershed Futures: Six-point Action Plan**

- More participation in development of policy
- Fiscal incentives for behavioural change
- Better data collection and storage – watershed scale
- Community water storage facilities
- Water awareness campaigns
- Leakage management and institution building

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