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Integrated
river basin
Management
From Concepts to Good Practice

Briefing Note 13

Raising the Awareness
of the Basin Community

A package of communication initiatives to inform schools, villages, towns, and the community in general about IRBM

This note is one in a series explaining the attributes and practical application of integrated river basin management. The purpose of the briefing note series and the issues and aspects that are covered are outlined in the mini-guide.

This note discusses:

- The value of having a community that is aware of the natural resources issues in the basin
- Some of the ways a river basin organization could introduce awareness raising programs to different stakeholders.



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Introduction

Today, stakeholders and user groups want to be involved in the planning and management processes for a river basin. The form of participation that is chosen in a country or river basin depends largely on the political and social cultures and aspirations there.

For participation to be meaningful, stakeholders and the larger community should be fully aware of the current natural resource problems affecting a river basin or those likely to emerge in the near future, along with options to address these problems.

Raising the awareness of the basin community is not a simple or “one off” exercise. Awareness raising programs need to be carefully considered, planned, and developed; be supported at the highest level; and reach all levels of the community. More specific awareness programs must also be developed and tailored to the particular audience, such as the farmers and irrigators, industry, or townspeople.



What Types of Awareness Programs are Needed?

Several sets of stakeholders, farmer groups, associations or interest groups need particular attention, based on their differing needs. Usually these various stakeholders can be grouped into the three categories below.

- The general community - schools, cities, residents, and townspeople
- Consumptive resource users and wastewater dischargers/polluters-farmers, irrigators, town and city councils, industries
- High-level stakeholders - leaders of the farmer groups or industry, politicians, academics and research institutes, city and town mayors, key media interests.

For each of these categories, there is a range of initiatives and opportunities to raise awareness of natural resource issues. These initiatives need to emphasize general basin-wide issues, as well as issues specific to the stakeholder group, geographic location, and so on. The various initiatives are discussed below.

How Can Community Awareness Be Raised?

THE GENERAL COMMUNITY

The general community is not usually interested in the technical issues relating to basin management. Provided that they have water when they want it and there are no drainage system problems or other difficulties - all at an affordable price-there tends to be little further interest.

Improvements can be made by consumers on both the supply and drainage sides if the impacts of their actions (such as excessive water use during times of drought, disposal of excessive detergents and other chemicals into the sewerage system, washing of wastes into drainage and river systems) were better known.

Some actions that can be taken by the basin organization to address the knowledge gaps include:

- A basin-wide awareness program that provides information on the characteristics of the basin and its natural resource base.
- A national or basin-wide Water Week or Clean Resources Week. Many countries host this type of event, sometimes to coincide with the United Nations Water Day or Environment Day. Water Week activities could include a national water seminar; a series of daily media stories; television interviews; field inspections for community leaders and the media; releases of new technologies and initiatives particularly relating to demand management; school poster or short story competitions; art competitions; and high profile presentations to raise the awareness of a particular issue. (For example, a truckload of salt was deposited on the steps of the city hall in one Australian city to show the community how much polluting salt passed down the nearby river in a day.)
- A longer-term national awareness campaign that runs for a year or more. In Malaysia, there is a "Love Our Rivers" campaign that targets both the general community and schools through high profile media campaigns (senior politicians do the promotion). It includes the

promotion of the use of new rubbish collection centers instead of the rivers for waste disposal. Similar approaches are to be tested in the lower Mekong Basin countries of Cambodia, Lao PDR, Thailand, and Vietnam. Australia had a "Clean, Healthy and Productive Rivers by Year 2000" campaign that started in 1994. This campaign was designed to showcase Australian rivers and the environment in general for the 2000 Olympics.

- A waste treatment and disposal program for solid and liquid wastes. This is often the primary issue at the village level.

One approach used successfully in some South Asian countries has been a collaborative effort between natural resource agencies and village communities to develop a series of Community Action Plans covering a range of environmental and other village-related activities. Such plans are dubbed Village Environmental Action Plans. These plans aim to protect and restore village water supply catchments, reduce adverse water-related health impacts, and promote sustainable management of fuel, fodder supplies, and solid wastes.

The Schools

Raising the awareness of natural resources issues among school children is particularly important so that future generations can potentially be better managers and consumers. In many countries, natural resource awareness programs are now incorporated in school curricula. In both Malaysia and Australia, "Streamwatch" school programs have been included in the national awareness programs mentioned earlier. There is a similar program in the United States.

The Streamwatch program allows schools within a catchment to adopt a section of a river, or possibly both the catchment and the river (in the school vicinity). Specific river and catchments health parameters are monitored

and analyzed and the results publicized in the local media. The monitoring might be based simply on visual observations of the river or on more elaborate water quality monitoring using sampling and testing equipment. In some cases, senior students are trained in water quality monitoring so that the results can be incorporated into the local agency's water quality assessment program.

Schools within a basin or sub-basin are connected online so that results can be exchanged and analyzed. Attempts can be made to locate the causes and locations of pollution problems and sources. Media presentations of these results are having a powerful impact with regard to getting polluters to improve wastewater management. The program has been so successful in Australia that virtually all schools now have private sponsorship to cover the costs of the program.

The Streamwatch programs in Australia and Malaysia have been upgraded to include different forms of natural resource monitoring, as well as analytical pollution games between schools and poster competitions. There has also been international cooperation and exchange, such as an Australian student delegation visited Malaysia for one of its annual Water Weeks and interacted with the Malaysian Streamwatch students there. This resulted in a collaboration between the two groups to share and compare programs and findings.

The Townspeople

At the town and city level, often the initial objective is to promote a change in behavior with respect to how water is used and disposed. Canada was the first to successfully address increasing nutrient levels in waste discharges caused by the presence of phosphorous in detergents and washing powders. Over the last decade, the consumers have become aware of the adverse impacts of phosphorous and can now make informed choices when they buy such products.



A similar path has generally been followed in Australia. Large reductions in nutrient loads are occurring as a result of changes in consumer behavior. This has positively impacted the river systems and has minimized the need for expensive upgrades of wastewater treatment plants, the costs of which would have been passed on to the consumers.

The concept of "model river towns" has been introduced in Australia and Malaysia. In Australia, a series of best practice principles have been developed to address water supply efficiency and demand management, wastewater discharge, stormwater runoff management, solid waste disposal, river bank vegetation, stream bed and bank protection, and the like. Towns along the river system are rated for innovation and compliance with performance criteria. The results are widely publicized and towns that receive a high rating are allowed to display reward signs. The Malaysian case has concentrated on simpler issues such as better bulk garbage disposal and management, which was previously left in unprotected piles or allowed to enter the rivers.

How Can the Awareness of the Consumptive Users Be Raised?

Consumptive users such as farmers, irrigators, and industrialists are much more directly connected to the natural resources of a basin than the general community. In most cases, they rely on the health of the basin to maintain their livelihoods. Degraded resources and an unhealthy river basin usually lead to tainted crops and food products. But many farmers, particularly those in developing countries, do not fully understand the relationship between basin health and their crops or have the opportunity to learn about improved agricultural practices.

Awareness raising among farmers, irrigators, and waste dischargers should therefore include practical field measures and programs for improved resource management, in addition to the conventional reporting and information exchange.

The establishment of Water User Associations (WUAs) and Water Supply Corporations (WSCs) is a positive step in developing countries because they can also serve as focal points to which the basin organization or water resources agency can direct education and awareness programs. The education packages should include position or information papers on all the key natural resource issues, the proposed strategies to address the problems, and the roles the farmers are expected to play. The WUAs and WSCs can pass on the information in a manner that the farmers can understand and use. Farmer involvement will be enhanced if close relationships are developed between the WUA, the local water agency, and WSC officials. Annual or periodic meetings and seminars, field days, and demonstration events should also be jointly held. A similar approach should be applied to raising the awareness in towns, industry, and irrigation schemes. Usually all water user groups are required to submit annual water diversion returns. This interaction provides a regular annual opportunity for the basin organization to pass on up-to-date information on all aspects of basin wide water management.

In developed countries such as Australia, Canada, and the United States, farmer and town groups have formed "Landcare" or "Rivercare" groups to collectively address particular problems within a relatively small area: on the order of about 20 farmers and a few small villages. With technical help from the river basin organization, the Landcare groups prepare natural resource rehabilitation and resource use efficiency plans based on the particular problems in their areas. Government funding in part helps in the implementation. A number of these plans - say, five to ten - can be compiled to create a larger Land and Water Management Plan for a drainage unit (see Notes 10 and 12).



“Rivercare” is a similar program, but is focused more on the river rather than the whole catchment or groundwater units. A group of water users such as a WUA, a town or village, or a combination adopts a length of the river system. With technical help from the agencies, they undertake riverbank restoration to improve the bank and vegetation conditions. This program closely resembles the Village Environmental Action Plans mentioned earlier. In Australia, especially in the state of New South Wales, the Rivercare approach was used quite successfully in the run-up to the 2000 Olympics. Over 200 individual groups were established from 1994 to 1997 and their achievements

were rated annually. At an annual conference, results were compared and awards presented by the Premier of the state, which attracted significant media attention. In 2000, the gold award also included a relatively large money grant for further work. This award was presented to the Rivercare group that had made the most significant improvements to river management during the six years of the program’s existence.

These landholder groups can focus on any issue that is relevant to the local area. Farmers tend to be more responsive and willing to help with resource rehabilitation and water use efficiency programs.

Once the Landcare and Rivercare programs have been established, they can be linked to other similar issue-specific programs, such as “Salinity Watch” or “Groundwater Watch.” In this way, many groups of stakeholders are linked together and information, achievements, and options for improvements can be shared. This promotes knowledge dissemination and sharing of experiences.

The critical aspect in all the local level awareness programs - whether they are targeted at townspeople, farmers, or schools - is to find a way to connect with the local community. There is often distrust or disregard for government agencies by the general community so it is important to develop good working relations with the local leaders: that is, local champions. In Australia, local leaders or high profile personalities (such as sportspersons and entertainers) have been used as local champions to promote new awareness raising programs.



How to Raise the Awareness of the High-level Stakeholders?

High-level stakeholders includes national, regional, and local politicians; academics and researchers; leaders of farmer groups; mayors; key industrial and private water users; environmental groups; ethnic or minority leaders (who may have cultural values relating to water and land that need to be understood in terms of basin management); and donor groups.

This group is crucial to the major decision making process in a basin in terms of setting policies and strategies, agreeing on action plans, and setting water charges and taxes or subsidy levels in relation to these charges. A very detailed approach to awareness raising is required for this group.

Generally, this high-level group demands more technical information than the other stakeholders. The basin organization must ensure that its strategic plan has been made available to the group so that they are aware of:

- The priority areas or key result areas that the basin organization plans to target over the next few years, and
- Those components of the resource base that are either under stress or likely to be so in the near future.

The high-level stakeholders can then discuss and debate options for resource rehabilitation, development, and user efficiency improvements.

In some instances, particular issues will need to be considered and debated separately. This can be the case with some environmental groups, irrigators, and industrial water users whose views are divergent. In these circumstances, it may be better to hold separate meetings before bringing all the parties together.

In many countries, there is a regular schedule of meetings (for example, quarterly) with high-level stakeholder groups. There is also an annual two to three day Water Policy Forum at which all major parties are present and emerging policy issues can be debated and recommendations made to the relevant government Minister, who usually attends the opening and closing sessions. In the Murray-Darling Basin in Australia, these annual meetings/seminars have been very beneficial. After the meetings, the water agencies and the Murray-Darling Basin Commission hold a series of briefing sessions at different locations in the basin to present the recommendations to the broader community so that all stakeholders are aware of the proposed actions and the potential effects. The minister requests community feedback and if necessary, will convene a meeting to hear first-hand the issues that are particularly troubling for the community.

How Should Messages Be Communicated?

The audience to be targeted and the approach to be used are equally as important as the proper development of the awareness-raising programs. Thus these aspects should be considered in tandem.

Much literature and several publications are available on the theoretical aspects of communication. It is not the intention of this Briefing Note to explore the range of available approaches. However, it is important for new or restructured organizations to review these approaches to establish which ones are appropriate to their circumstances. For more information, see Brunig and Lendingham (2000), Grunig (1992), and Crano and Silnow (1987).

The communication strategy developed by the Murray-Darling Basin Commission (MDBC) provides one approach. The strategy aimed to ensure that the correct messages - targeted at the appropriate groups and using a suitable technique - were relayed. To develop the strategy, the community was first consulted to find out their needs and recommendations regarding communication with MDBC. Over a six-month period, several consultation meetings, interviews, and a workshop with key players were held. International and national best practices in communication were reviewed and a communication framework was prepared.

Three desirable features for the communication strategy resulted from this process. It was determined that the strategy must:

- Be based on a version of best practice that suits the culture of the Murray-Darling Basin
- Involve information exchange with all levels of the basin community
- Cover all the components of the basin's natural resources that are currently under threat or are likely to be so, in the foreseeable future.

In this way, joint ownership for the communication strategy was established by the stakeholders and the government.

A working group comprising MDBC and state agency officials and community representatives then developed a draft strategy in line with the three features listed above. This process involved seven steps:

1. Identification of key partners and groups with whom to communicate
Who is involved, affected, or interested?
2. Clarification of relationships
What type of relationship is desired with each partner or group?
3. Agreement on the key messages to be distributed
What messages are most important for each partner or group?
4. Definition of objectives
What is to be achieved in communicating with each partner or group?
5. Selection of communication approaches
What approaches will best suit the objectives and the desired relationships?
6. Alignment of tactics and resources
What tactics, approaches, or techniques can be considered, based on available resources?
7. Implementation and evaluation of the strategy
Has the strategy been effective and/or is modification required?

After the strategy was developed, the working group held a series of workshops throughout the basin to obtain feedback. The draft strategy was then finalized and sent to the MDB Ministerial Council for approval, together with the budget requirements.

The final package included 14 specific components:

- Development of integrated partnerships with all key groups in the basin
- Identification of existing networks and pathways for communication
- Support of existing networks of community landcare and catchment management groups

- > Development of strategic alliances and communication agreements with relevant groups, including the media
- > Development and maintenance of a natural resource communicators network (the champions who are likely to influence public opinion)
- > Engagement of the mass media in regard to the problems in the basin
- > Development of mechanisms or processes to obtain agreement on messages
- > Development of new coordination approaches to maximize impact
- > Development of a range of publications and media material
- > Targeting the school education system as children are the next generation of resource users
- > Incorporation of feedback and evaluation processes into the strategies
- > Solicitation of political and financial support for the communication strategy
- > Training of key people in effective communication techniques.

The involvement and support of the local leaders or champions is critical to the success of the communication strategy.

This MDBC communication strategy (as detailed above) has been in operation for only two years and feedback evaluations are underway. Some of the key messages have changed and new target groups have emerged, particularly in the non-governmental environmental area, which will require some alterations to the strategies. In addition, the mass media and schools have become increasingly attentive and interested in the resource problems of the basin. More details can be obtained from the MDBC website at <http://www.mdbc.gov.au>.

How to Move Forward with Raising Stakeholder Awareness: Some Key Questions

- > Has some institutional procedures been established within the river basin for stakeholder participation at all levels?
- > Have the stakeholder groups been given the relevant reports and information so that they can adequately understand and discuss the problems of the basin?
- > Have the local leaders and champions been identified? How are the working relationships with them?
- > Are the stakeholders satisfied with the information provided? Do they want more information?
- > At the top level, are annual or regular meetings held at which all key stakeholders and the senior agency officials (perhaps including the minister) discuss the key policy issues?
- > Are there formal awareness and participation programs for the middle- to lower-level stakeholders, such as the Streamwatch program?
- > Is there an annual Water Week that encourages strong media attention?
- > Are Water User Associations targeted for awareness raising and how is this being done? Are these groups being encouraged to develop land and water management or some similar type of plan?
- > Is there government support for awareness-raising programs? Should the minister be briefed by stakeholder representatives to understand first-hand what are the stakeholders' needs?

Abbreviations and Acronyms

BDP	Basin Development Plan
BET	Beneficial Evapo-transpiration (ET)
CU	Consumptive Use
DSF	Decision Support Framework
ERS	Environmental Resources Study
ET	Evapo-transpiration
GW	Groundwater
IRBM	Integrated river basin management
KRA	Key Result Areas
LWMP	Land and Water Management Plans
MDBC	Murray-Darling Basin Commission
MRC	Mekong River Commission
NBET	Non-beneficial Evapo-transpiration (ET)
O&M	Operation and maintenance
OMVS	Organisation pour la Mise en Valeur du Fleuve Senegal
RBO	River basin organization
SMART goals	Goal that are S (Specific), M (Measurable), A (Achievable), R (Realistic), and T (Time-based)
SW	Surface water
SWOT analysis	Analysis of Strengths, Weaknesses, Opportunities, and Threats
TBWRC	Tarim Basin Water Resources Commission
TQM	Total Quality Management
WSC	Water supply corporation
WUA	Water user association
WUP	Water Utilization Program

References

WEB SITES

Water Resources Management

Sectors and themes including:

- Coastal and marine management
- Dams and reservoirs
- Groundwater
- Irrigation and drainage
- River basin management
- Transboundary water management
- Water and environment
- Water economics
- Water supply and sanitation
- Watershed management

Information and access to the respective Web sites can be found at:
<http://Inweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/Sector-sandThemes>

Dams

Benefit Sharing from Dam Projects, November 2002
<http://www-esd.worldbank.org/documents/bnwpp/2/FinalReportBenefit-Sharing.pdf>

Good Dams and Bad Dams: Environmental Criteria for Site Selection of Hydroelectric Projects

[http://essd.worldbank.org/essdint.nsf/90ByDocName/WorldBankSafeguardPolicies404NaturalHabitatsGoodDamsandBadDamsEnvironmentalCriteriaforSiteSelectionofHydroelectricProjects/\\$FILE/Good+and+Bad+Dams+final.pdf](http://essd.worldbank.org/essdint.nsf/90ByDocName/WorldBankSafeguardPolicies404NaturalHabitatsGoodDamsandBadDamsEnvironmentalCriteriaforSiteSelectionofHydroelectricProjects/$FILE/Good+and+Bad+Dams+final.pdf)

Groundwater

GW-MATE: Groundwater Management Advisory Team Briefing Note Series.

The overall structure of the series is as follows:

Notes 1 and 2 - Broad introduction to the scope of groundwater management and groundwater system characterization

Notes 3, 4, 5, 6, and 7 - Essential components of management practice for major aquifers with large groundwater storage under stress from intensive water-supply development for irrigated agriculture and/or urban water-supply

Note 8 - The protection of potable groundwater supplies

Notes 9, 10, and 15 - Planning national and regional action for groundwater resource management

Notes 13 and 14 - Management of smaller-scale water supply development in the rural environment

The remainder of the series (Notes 11,12,16, and 17) deals with a number of specific topics that pose a special challenge.

<http://Inweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/Sector-sandThemesGroundwaterBriefingNotesSeries>

The Murray-Darling Basin
 Murray-Darling Basin Initiative
<http://www.mdbc.gov.au/>

The Living Murray Initiative
<http://www.thelivingmurray.mdbc.gov.au/>

Heartlands Initiative
<http://www.ciw.csiro.au/heartlands/partners/index.html>

Toolkits

Benchmarking, Rural Water Supply and Sanitation for Multi-Sector Projects, Gender, Hygiene and Sanitation, Private Sector Participation, Small Towns
<http://www.worldbank.org/html/fpd/water/toolkits.html>

Global Water Partnership IWRM Toolbox
<http://gwpforum.netmasters05.netmasters.nl/en/index.html>

Water Demand Management

Building Awareness and Overcoming Obstacles to Water Demand Management, Guideline for River Basin and Catchment Management Organizations, IUCN
http://www.gwpforum.org/gwp/library/River_basin_management_guideline_26Oct2004.pdf

Water Resources and Environment Technical Notes

The overall structure of the series is as follows:

- A. Environmental Issues and Lessons
- B. Institutional and Regulatory Issues
- C. Environmental Flow Assessment
- D. Water Quality Management
- E. Irrigation and Drainage
- F. Water Conservation and Demand Management
- G. Waterbody Management
- H. Selected Topics

<http://Inweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/Sector-sandThemesWaterandEnvironmentWaterResourcesandEnvironmentTechnicalNotes>

Water Supply and Sanitation

<http://www.worldbank.org/html/fpd/water/index.html>

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