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The cases of Angat, Laguna, Batangas and Cebu City

Competing uses of water*

By Guillermo Q. Tabios and Cristina David, Ph.D.**

The government has traditionally taken the leading role in the allocation and management of water resources. Because of the unique characteristics of water, a completely free market approach will undoubtedly fail in attaining an efficient and sustainable allocation, development, and management of the water resource.

Historically, government decisions in the allocation and management of water resources have been dominated by equity objectives, considering that water is essential to man and his economic activities as well as for the sustainability of his and other ecosystems.

When the demands for and the cost of supplying water (such as storage, transport, and treatment) were low, questions of efficiency in management, sustainability of water resources, and availability of water to all sectors were not raised nor considered relevant.

In the last two to three decades, however, competition among various sectors—households, industries, agriculture, fisheries—has become more stiff. Rising population, increasing incomes and rapid industrialization, commercialization, and urbanization have increased the demand for water for both municipal and agricultural uses.

At the same time, the quantity and quality of available water resources have been declining due to forest denudation, inability to control water pollution, failure to effectively regulate land use to protect water resources, and other uncontainable environmental reasons. In addition, the cost of developing new sources of water supply for municipal and agricultural uses has risen as well.

As a consequence, the government's task of resolving allocation conflicts among competing interests and managing water supply has become increasingly more complex as the scope for supply-side management responses has reached its limit. With developments such as the worsening scarcity of water resources and escalating cost of new water supply taking centerstage attention, efficiency and sustainability issues (aside from equity) have become major concerns in managing the supply and demand aspects of water.

A key instrument in achieving greater efficiency and sustainabil- page 3

* This article is based on the paper presented at the Policy Forum on Water Resources Management sponsored by the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program for Southeast Asia (SANREM-CRSP/SEA), UP at Los Baños and the Philippine Institute for Developmental Studies (PIDS), Makati City, August 12, 2002.

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What's Inside

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Editor's Notes

Unknown to many, there is an issue of competition in water usage and there are competing interests at play in its allocation. This natural resource is at the middle of a struggle between several sectors for satisfactory continued existence and performance.

Water plays an essential part in every economic activity and this is the major reason for this competition as well as the basis for the government to come into the picture. What may sound trivial and unbelievable at first is actually a major issue and concern in the agricultural, commercial fisheries, and household sectors. Caught in the balancing act is the government who decides on whose needs should be prioritized.

There is a law that explicitly states that during extreme times, water allocated to farms may be channeled to domestic and municipal uses. This has been done before; however, it seems that this has not been addressed properly because until now, the farmers affected by such rechanelling have not been compensated as per the accompanying provision in the law.

The problem is rooted in the sharing of underground aquifers and lake systems. For example, excessive extraction of underground water by certain industrial users had adversely affected households who complained of saltwater intrusion. In another case, a lake that has provided fishermen with daily supply of fish has also served as a dumping ground for commercial and domestic wastes.

While the government may be aware of most of the problems in the competing uses of water systems, it has, unfortunately, not totally addressed them. Hopefully, the feature story in this issue will continue to serve as a reminder on the need for the government and other concerned agencies to act on this urgent and extensive task of managing the allocation of water.

Also in this issue is the readership survey we conducted early this year among our *Development Research News* readers. The survey focused on the newsletter's readability, language, usefulness and design. The comments of the respondents have been positive and helpful, and have inspired us to continue with our commitment to provide more valuable feature stories and highlights of development issues and activities. We therefore thank everyone who responded and participated in the survey and we pledge to continue to serve the public and policymakers as we have done for the past 20 years. ***DRN***

Water uses...from page 1

ity in water resource management is to let the social opportunity or scarcity cost of water be reflected in water production and consumption decisions. This is in addition to the full financial cost of water supply development and management and any environmental cost involved in the process of developing and using water resources.

The Philippine water laws provide the framework for allowing the scarcity value of water to be paid by users. The Water Code (Presidential Decree 1067) passed in 1976 authorized the National Water Resource Board (NWRB) to grant water rights, levy the appropriate fees for these rights and collect charges for water development. With regard to water allocation, the Code states that in times of drought or any emergency, the use of scarce water for domestic and municipal purposes takes precedence over agriculture or other uses. The Code further provides that such reallocation requires payment of due compensation to the holders of such rights. Another provision allows the transfer or lease of water rights in whole or in part to other parties subject to the approval of the NWRB. However, water charges collected by the NWRB are minimal, hardly able to support the proper administration of water rights and not related to the opportunity cost of water.

Numerous cases of conflicts in water use remain unresolved while opportunities for more efficient allocation and use of water resources through appropriate pricing of raw water or trading of water rights are unexploited. These cases include relatively small conflicts such as the allocation of irrigation water between upstream and downstream farmers or the loss of second rice crop among farms in a barangay in San Pablo City, Laguna when the use of stream water was shifted for municipal use. These disputes also occur in large water systems such as the conflicting use of Laguna Lake water for fisheries, transport, recreation, drinking water, and as a waste sink.

Four large multipurpose or multi-use water resource systems in the Philippines are presented and discussed in this paper. These are the Laguna Lake System, Angat Reservoir and the groundwater systems of Batangas City and Cebu City. The physical system and various uses of each of these water resource systems are described and certain management and operational issues and concerns of these systems, especially in the context of the competing uses of water, are also discussed.

Angat Reservoir

The Angat Reservoir is a multipurpose reservoir that supplies (a) irrigation water to over 28,000 hectares of rice and vegetable farms in Bulacan; (b) domestic water to almost 65 percent of Metro Manila, which is regulated by the Metropolitan Waterworks and Sewerage System (MWSS) and distributed by the private concessionaires Manila Water Company (MWC) and Maynilad Water Services (MWS); (c) hydropower generation demand of the National Power Corporation (NAPOCOR) at an annual average of 500 gigawatt (gw), which constitutes about 5 percent of Luzon's power demand; and (d) serves as the downstream flood control storage of the Angat dam.

The Angat dam is a rockfill dam that measures 131 meters (m) high with a 630 m road surface top at the dam crest. It has an active capacity of 865 million cubic meters (mcm), a dead storage elevation of 158 meters above mean sea level (amsl) and spilling elevation at 217 meters amsl. The reservoir has two major release gate structures: 1) the main hydropower turbines with maximum output of 230 megawatts (mw) per unit, and with released water then re-regulated downstream at Bustos dam for final release to the Angat-Maasim River Irrigation System (AMRIS) of the National Irrigation Administration (NIA); and 2) the auxiliary hydropower turbines with maximum output of 7 mw per unit, and with released water re-regulated downstream at the Ipo dam prior to being discharged to MWSS through the Ipo-Bicti tunnels and Bicti-Novaliches aqueducts for flow splitting to the east and west zone water concessionaires of Metro Manila.

Annual average inflow to Angat Reservoir is 70 cubic meters per second (cmps). Since 2001, however, inflow to the reservoir has been augmented by an estimated average annual inflow of about 9 cmps by diverting water from the Umiray River watershed through the 13.1 kilometer (km) Umiray-Angat transbasin tunnel (UATP).

Currently, the water rights of MWSS is 31 cmps, which is the sum of its original water rights of 22 cmps granted by the National Water Resources Council (currently the NWRB) in 1979 and the additional 9 cmps from UATP. The NIA-granted water rights to AMRIS, meanwhile, is 36 cmps. Since the MWSS and NIA releases go through the hydropower turbines, the NAPOCOR allocation essentially constitutes the water allocations of MWSS and NIA.

...The Code states that in times of drought or any emergency, the use of scarce water for domestic and municipal purposes takes precedence over agriculture or other uses...allows the transfer or lease of water rights in whole or in part to other parties subject to the approval of the NWRB.

The Angat Reservoir water allocation for domestic water supply [in this case] will no longer be enough unless NIA gives up its irrigation water allocation, which is possible only if certain irrigated lands are retired.

A future concern is the ever increasing demand for domestic water supply in Metro Manila which is projected to reach as much as 60 to 65 cmps by year 2010 (David et al. 2000). The Angat Reservoir water allocation for domestic water supply in this case will no longer be enough unless NIA gives up its irrigation water allocation, which is possible only if certain irrigated lands are retired.

In a 1996 study by the Asian Development Bank (ADB), the price of raw water at the Angat Reservoir for MWSS was estimated at P0.80 per cubic meter (pcm) during generally wet years and P5.70 pcm during severe dry years or drought. On the other hand, the estimated cost of compensating farmers during drought ranged from P1.60 to P2.90 pcm and the foregone hydropower benefit is about P0.20 pcm.

During drought, water is drastically needed to satisfy domestic water supply. Thus, it may be economically beneficial for AMRIS to sell its irrigation water entitlement to MWSS provided that MWSS compensates the farmers at AMRIS for reduced irrigation water supply and the NAPOCOR for the foregone hydropower revenues.

The trading of irrigation water for domestic water supply, however, is not that simple. For instance, during the El Niño phenomenon period in 1997 which caused severe water shortage in the country, the actual water released to MWSS was 32 cmps on the average when its water allocation then was only 22 cmps. This trade-off was at the expense of Bulacan farmers who experienced massive crop losses.

In case that additional Angat Reservoir water will be made available to MWSS, the Ipo-Bicti tunnels must be increased because the combined capacity of the tunnels is only 39.02 cmps (NHRC 2000). That is why the water that can be conveyed to MWSS is only limited to 39 cmps even if MWSS can draw a maximum of 46 cmps based on MWSS water allocation of 31 cmps and the 15 cmps of conditional / residual water from NIA.

The Angat Reservoir is vital to Metro Manila. Almost 97 percent of MWSS water supply comes from this reservoir although MWSS serves only 65 percent (as of 2000) of Metro Manila's water needs. Simply expanding the MWSS service area would roughly require an additional 25 cmps on top of the current water demand of 46 cmps. Definitely, MWSS has to look at alternative water sources such as the possibility of tapping water from Laguna Lake and the proposed Laiban Dam. Only about 3.5 cmps can be drawn from Laguna Lake but Laiban Dam appears to be the better alternative because it is estimated to provide as much as 22 cmps of raw water supply.

Laiban Dam receives water from the Kaliwa watershed in the eastern slope of the Sierra Madre mountain which is characterized by a generally wet climate all year round. This is in contrast to the Angat River watershed which has both distinct dry and wet seasons. Estimates of the price of water from Laiban dam in the mid-90's were around P13-15 pcm. The present rate could be from about P19-22 pcm. This rate is actually affordable considering that vended water in Metro Manila can cost as high as P40 pcm.

Laguna Lake system

Laguna Lake encompasses Metro Manila and the provinces of Rizal, Cavite, Batangas and Quezon. The entire basin is about 2,865 square kilometers while the lake area including Talim Island is about 900 sq. km. Of the 24 watersheds that drain into the lake, 22 are under the jurisdiction of the Laguna Lake Development Authority (LLDA). The biggest watershed is the Marikina River basin located to the north of the lake while the second biggest is Pagsanjan River in the southeast part. As a multipurpose water resource system, Laguna Lake is used for flood control, fisheries production, navigation, Caliraya Reservoir-Kalayaan hydroelectric pumped-storage system, and source for domestic water supply and irrigation.

The Marikina River basin, the biggest contributing watershed to the lake, drains into the Pasig River and then to Manila Bay. When parts of Metro Manila, especially along the Pasig River, get flooded, water in the Marikina River is diverted to Laguna for temporary storage through the Rosario weir, a gated structure in the Manggahan floodway. Although this scheme protects Manila from being flooded, lakeshore towns around Laguna Lake, especially Taguig and Taytay, are not spared. The volume of diverted floodwaters is large and the sediment-laden flows result in highly turbid lake water. This adversely affects the lake's primary production due to the inability of light to penetrate lake bottom.

Meanwhile, saltwater from Manila Bay entering Laguna Lake through Pasig River raised Laguna Lake's salinity level to about 2 to 6 parts per thousand (ppt) and has made it desirable to the fishing industry. On the other hand, water for domestic consumption requires only minimal salinity and treating water for domestic use with a salinity level of just above 0.3 ppt could be very expensive.

Laguna Lake also serves as a major waste sink of Metro Manila and other surrounding highly urbanized towns. All kinds of pollutants are dumped into the lake, including heavy metals and other toxic substances. However, the degree of lake pollution from industrial effluents or domestic waste varies within the year due to the seasonality of the dilution effects of freshwater inflows from watersheds around the lake.

In addition, fishing is a big industry in Laguna Lake. The LLDA derives a significant portion of its revenues from renting out portions of the lake area to commercial fishermen who use fish pens and other fish cage structures. The question, however, is how many hectares of lake area could be allocated to commercial fish production without affecting the water quality dynamics and health condition of the lake. In 1995, for instance, the total lake area covered with fish pens and cages was about 15,140 hectares (ha) and the lake's biochemical oxygen demand averaged at 12.5 milligram per liter (mg/l) in 1996. The latter was reduced to 10.4 mg/l when the area covered with fish pens was reduced to 11,160 ha in 1999 (Catalan 2000).

Every few years or so, meanwhile, when the navigation lanes in the lake become shallow due to siltation or sedimentation, dredging operations are carried out. However, in doing dredging works, there is a risk of the resuspension of toxic materials and substances that may have already settled in the lake bottom.

One scheme therefore to ensure the containment of the toxic materials is to isolate the area to be dredged using movable cofferdams. The dredging may also be done through direct suction of materials into boats or barges for shipping out.

Batangas City groundwater system

Batangas City and its peripheral areas almost solely rely on groundwater for domestic, industrial and commercial uses. The city sits on a regional deep and confined groundwater aquifer which extends to over 30 kms inland and about 35 kms along the coast of Batangas Bay. Packets of unconfined and shallow groundwater aquifers also abound inland and some even extend toward the coast.

The Batangas City Water District (BCWD) pumps an average of 1.0 cmps from the deep aquifer for its customers' domestic and commercial water uses. Heavy industries along the coast of Batangas Bay such as Pilipinas Shell, First Gas and JV Industries, on the other hand, extract as much as 1.1 cmps of groundwater using their own deep well pumps.

This unchecked extraction has prompted the city government of Batangas to pass an ordinance requiring all heavy industries, mostly located along the coastal areas, to use treated seawater by constructing desalination plants instead of pumping groundwater. The reason for passing the ordinance stemmed from concerns on the excessive pumping of groundwater in the coastal areas and the subsequent intrusion of saltwater into the groundwater aquifer and land subsidence. The city government is thus giving the heavy industries five years to build desalination plants unless any one of them can justify why such a desalination plant is not necessary.

The salinization of the shallow supply along the coast has been blamed by households on certain heavy industries which argued in turn that they extract groundwater from the confined aquifer and not from the shallow aquifers. Given that the BCWD also extracts a significant amount of groundwater from the same aquifer, there may indeed be a problem of seawater intrusion due to overextraction. As such, both heavy users should therefore be responsible. BCWD, however, is not being perceived as part of the problem.

..When the navigation lanes in the lake become shallow due to siltation or sedimentation, dredging operations are carried out. However...there is a risk of the resuspension of toxic materials and substances that may have already settled in the lake bottom.

Cebu City groundwater system

The groundwater system of Cebu City covers an area of about 180 sq km; it stretches about 30 km from north to south and is about 5 to 8 km wide. The aquifer is mainly composed of very porous Carcar limestone with large cavernous channels (Walag 1997). The eastern portion of the groundwater aquifer is hydraulically connected to the ocean and is thus susceptible to seawater intrusion.

The annual average rainfall in Cebu's coastal area is about 1.6 meters (m) a year and about 30 percent of this amount makes its way into the groundwater aquifer. The groundwater recharge is estimated to be in the range of 54.7 (Clemente et. al 2001) to 86.4 million cubic meters (mcm) a year (Scholze et al. 2002).

The water supply of Metro Cebu is mainly derived from this groundwater system and its major customers are the Metropolitan Cebu Water District (MCWD) and other private and public users. The annual groundwater extraction in Metro Cebu is about 83.2 mcm, of which 36.5 mcm is extracted annually by MCWD while 46.7 mcm is extracted by other users, mostly private. This extraction rate is almost equal to the annual groundwater recharge of 86.4 mcm.

Apparently, the groundwater extraction rates have exceeded the safe yield of the aquifer and have resulted in seawater intrusion into the aquifer. The latter has been observed by Engelen (1975) as far back as 20 years ago and later by Walag (1984). This excessive pumping has also resulted in the decreasing groundwater piezometric levels, thus requiring higher pumping lift (energy) to extract groundwater. The Cebu City groundwater aquifer is also vulnerable to seawater intrusion because of its very porous Carcar limestone formation.

The MCWD has been deputized by the NWRB to regulate groundwater usage in Metro Cebu which has over 20,000 registered groundwater wells (Walag 1997). To ensure that the groundwater usage is within the safe yield of the aquifer, MCWD is tasked to monitor and record the production of these wells. With no budget for groundwater monitoring, however, there is simply no way for the MCWD to regulate or control groundwater usage. Efforts to arrest further intrusion of seawater inland is therefore futile.

Conclusions and recommendations

Based on the description of the four multipurpose water resource systems, what conclusions can we draw? And what recommendations can be offered?

The Angat reservoir

As noted earlier, there have been some changes in the water allocations of Angat Reservoir in the past in favor of increases in domestic water supply allocation for MWSS vis-à-vis the irrigation water allocation for NIA. At issue, however, is the compensation of Bulacan farmers who sold their water allocation rights in 1997. Their claims are still under debate between NIA and MWSS up to this date (Pascua 2002).

The Angat reservoir may still meet its water demand if it would combine hedging rules with forecasted inflows and dynamic optimization. At the same time, the reservoir should not be Metro Manila's main source. The soon-to-be completed Laiban Dam may be an alternative source of water.

The Laguna Lake system

With regard to pollution and salinity of the lake, it would be useful to establish a regular and continuous water quality data monitoring. In the past, data collection was done on a project basis while sampling frequency was done irregularly. When complemented with a predictive water quality or lake pollution model, data monitoring can be very useful in the surveillance, detection and regulation of lake pollution.

The Batangas City groundwater system

The problem of saltwater intrusion in the groundwater aquifer has been blamed on big industries located along the coast due to the intensity of their groundwater extraction. One way to address this issue is to undertake a comprehensive groundwater quantity and quality study with projected water demands to evaluate available and future groundwater resource in Batangas City and its vicinity. Only then can efficient, sustainable and safe usage and management of available groundwater resources be recommended as well as the possibility of using a combination of water sources in the future.

The Cebu City groundwater system

The MCWD has been deputized by the NWRB to regulate and control groundwater usage within safe yields level but apparently, the former is not able to do it. Unless this question of control and regulation is thus resolved, there is no way of solving the problem of seawater intrusion and excessive drawdown from the Metro Cebu groundwater aquifer. An extensive monitoring of groundwater levels and withdrawal rates must therefore be established in Metro Cebu. A comprehensive groundwater model for flow and salinity transport will likewise contribute toward a proper and efficient management of Metro Cebu's groundwater resource. ***DRN***

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DRN readership survey

Who reads the DRN? And why?

As part of its monitoring and evaluation of the usefulness and acceptability of its various publications, the Philippine Institute for Development Studies (PIDS) conducts readership surveys every so often.

In the second half of this year, the Institute once again held another such survey but this time, focused exclusively on the *Development Research News* (DRN). The decision to focus on the *DRN* was, apart from the usual communication rationale of getting feedback on a specific product to inroduce changes or innovations, if needed, because management and the editorial staff thought it to be a meaningful way to celebrate or observe the *DRN*'s 20th year of publication. It would indeed be good to hear again (this represents the third readership survey of the *DRN*) how the newsletter is faring and has fared amidst all the developments in the local and international scenes and the continuing breakthroughs in the information and communication technology (ICT) scenario.

A little history

The *DRN* first saw print in August 1983. Initially, it contained summaries of the recently completed research at the Institute and highlights of some of the seminars held at the Institute. The target audience was then limited to the PIDS staff, PIDS network researchers, the members of the NEDA Board and the officialdom of the NEDA Secretariat.

Through the years, however, as more features on timely policy issues began to appear in the *DRN*, more requests from certain quarters to include them in the mailing list were also received. When the legislature became an equal voice in the national decision-making process with the executive branch after the People Power Revolution in 1986, a number of its members, both at the Lower and Upper Houses, were included in the *DRN*'s mailing list. Then, in 1991, after the Local Government Code was passed and when local planning and policymaking began to take centerstage, local government executives, including provincial planning and development officers, also became regular recipients of the *DRN*.

And even before the internet revolution caught up, copies of the *DRN* already began to appear in various parts of the world as copies were sent to key Philippine embassies abroad as well as to certain foreign embassies based in the Philippines. This decision to include them in the mailing list was in response to the disappointment felt by a PIDS officer who, during one of her travels abroad, could not find any recent material or write-ups about developments in the Philippines relating to key policy issues and their impact on certain sectors of Philippine society.

The increasing presence of Filipino overseas workers in these countries who were also looking for reference materials and information about Philippine socioeconomic developments likewise prompted this decision.

Aside from featuring articles expounding on the various concerns relating to a specific policy issue like health reforms, housing programs, environmental matters, trade and the like, the *DRN* also initiated related undertakings like the regular inclusion of an inventory listing, with abstracts and other relevant information, of completed, ongoing and pipeline studies about Philippine economic and development policy issues done by various research institutions in the Philippines. The listing—called the Clearinghouse project on Socioeconomic Studies in the Philippines—ran for about five years and came out twice a year.

Unfortunately, due to the shortage in manpower, the project had to be discontinued. This inventory listing, however, became the precursor of a current PIDS online undertaking called the SocioEconomic Research Portal for the Philippines or SERP-P (this initiative was mentioned in the previous *DRN* September-October 2002 issue). The *DRN* endeavors to provide information that may be of use to its various audiences. The recent readership survey was meant to see if this is validated.

Survey details

The formulated survey questions were designed to evaluate the effectiveness of the *DRN* in disseminating key research results. Hence, there were questions on the reading frequency of respondents; the understandability and readability of articles; presentation of the newsletter itself; usefulness / relevance of the articles; and the willingness of recipients to receive succeeding copies of the newsletter.

The survey was a five-stage response for questions on reading frequency, readability, language used, design and usefulness. Respondents were given five possible answers ranging from the very negative to very positive. On whether the respondents read the *DRN* or not, those who chose negative answers are immediately asked whether or not they wish to receive forthcoming copies and their reasons for their answers.

The survey letters were sent out to the *DRN*'s 1,239 subscribers and recipients beginning in June up to August 2002. By the end of September, a total of 371 responses were received, representing a 30 percent survey turnout. Of this number, around 26 percent is composed of staff / directors from various government agencies, 12 percent from various Provincial Planning and Development Offices and 11.86 percent each from both the Upper and Lower Houses of Congress and NEDA staff / directors. The rest came from the academe, Cabinet members and foreign embassies (Table 1). The profile of those who responded reflects the type of audience who regularly reads the *DRN* and therefore suggests the kind of focus of the articles that the *DRN*

☛ next page

Table 1. Category of survey respondents as a fraction of total respondents (in percent)

Staff/Directors of Various Government Agencies	26.68
Provincial Planning and Development Offices	12.67
Upper/Lower House of Congress	11.86
NEDA Staff/Directors	11.86
State Universities and Colleges /Research Institutions/University Libraries	8.36
Governors/City Mayors	7.82
Network of Researchers/Consultants (Foreign and Local)	7.28
Selected Foreign Embassies in Manila/Abroad	4.31
Local Financial Institutions	2.96
Cabinet Members/Secretaries	2.43
Foreign Exchange/Libraries	1.35
Multilateral/Bilateral Agencies	1.08
Supreme Court Justices	0.81
Media	0.54

should carry. It likewise suggests the kind of mode and thrusts that the *DRN* needs to maintain or go into to serve its given mandate.

Figures say...

Of the 371 respondents who sent back their responses, 86 percent indicated that they read the newsletter while 14 percent did not (Figure 1). However, whether they read the *DRN* or not, almost all of these respondents still desire to receive the *DRN*. In fact, 99 percent is still willing to be part of the *DRN* mailing list (Figure 2), which reflects the respondents' perception of the *DRN* as a relevant and informative reference.

As to the respondents' reading frequency, 26 percent always read the newsletter while 43 percent read it often (Figure 3). This denotes that the attempt to disseminate key research results has not been in vain. In addition, the generally positive feedback on the reading frequency may be generally ascribed to the *DRN*'s information content. Most of the respondents greatly appreciate its socioeconomic and developmental features. In fact, they even suggest additional topics—such as social welfare, human development index and yearly poverty incidence—to be featured in succeeding issues.

The respondents' positive reception also indicates their desire to receive *DRN* on time. This suggests that PIDS publications have a lot of room for improvement regarding the time element of production. Moreover, a regular review of the Institute's publications distribution system needs to be done in response to the claim of a few respondents that they have not received a copy of the newsletter at all.

In general, respondents find the *DRN* readable while only a very small percent has difficulty in reading the featured articles (Figure 4). As to the language used, Figure 5 shows that 42 percent of the subscribers and recipients find the language as technical while 40 percent considers the language as neutral. While the results may seem to contradict Figure 4, it should be noted that *DRN* recipients are mostly staff / officials of government agencies, foreign and local consultants, and planning and development staff of local government units. Usually, these persons are knowledgeable in economics or at least familiar with economic jargon.

Although this perception may suggest that the language is not a burden to the *DRN* readers, the figures still indicate that the PIDS publications can achieve higher a readership base if increased efforts are directed to popularizing the language. This way, even the nontechnical staff would be able to appreciate the articles in the *DRN*.

Design-wise, 22 percent of the respondents think that the design is very good while 63 percent considers it good (Figure 6). This is a positive feedback on the quality of design, which the Institute can capitalize on. Although not the most important ingredient in the newsletter, the value of the design should not be underestimated because it enhances the look of the newsletter and stimulates the readers to read beyond the first page.

On the newsletter's usefulness, 94 percent of the respondents find the articles in the *DRN* relevant and useful in planning and decisionmaking (Figure 7). This indicates that the *DRN* is serving the purpose of its existence: to provide relevant information to

Figure 3. Respondents' reading frequency

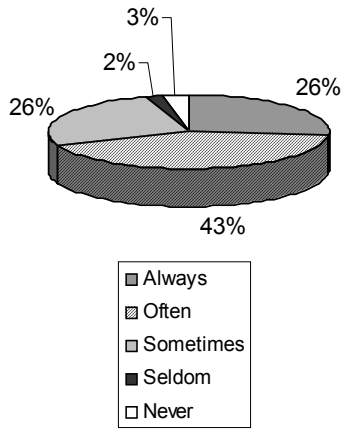


Figure 1. DRN reader or not

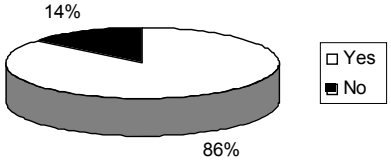


Figure 2. Respondents' willingness to receive succeeding copies

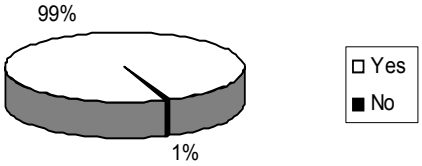


Figure 4. Perception of DRN readability

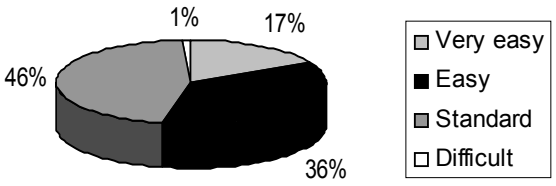
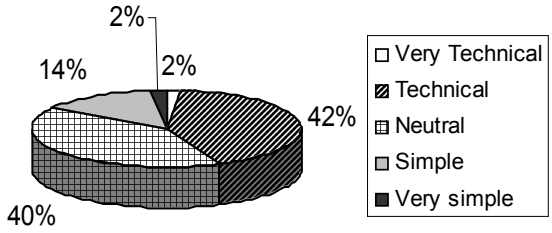


Figure 5. Perception of language used



economic planners, researchers and policymakers.

Summary / Conclusion

Based on the results, there are two aspects that the *DRN* has to sustain. One is the substance or content, which 94 percent of the respondents consider informative and relevant. This is apparent in the respondents' eagerness to read a copy and their expressed desire to receive it on time. Two is the design, an equally important element that enhances the newsletter's overall impact on readers.

The survey also discloses areas that still need improvement.

One is the language used, which is considered technical by almost 44 percent of the respondents. While the profile of the current readership's knowledge and expertise probably makes it relatively easy for them to understand said technical language, the fact that the *DRN* may be further disseminated to a more mass-based audience should enourage the *DRN* editorship to make the language even more neutral. Being able to get the message across a large base of readers, after all, is a task that should be addressed if the extensive dissemination thrust of the Institute is to be achieved.

Figure 6. Perception of DRN design

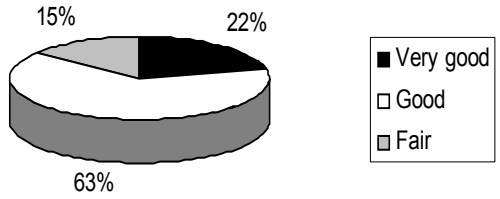
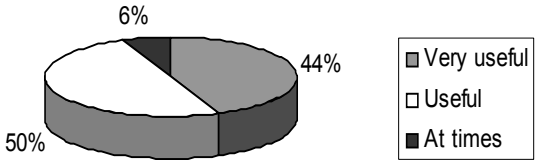


Figure 7. Perception of DRN's usefulness



Another is the timeliness of the production. Features in the *DRN*, no matter how informative, will become less relevant if the issues are not released on time. This is therefore an area which the *DRN* management continues to focus its efforts on.

And still another, and related to the second, is the distribution system. There is a need for a continuous updating of the mailing list and proper documentation of received materials. Management, therefore, continues to improve its distribution system and to look for alternative and/or supplemental mechanisms for such.

On the whole, the feedback from the 2002 *DRN* readership survey is both enlightening and encouraging. Results reveal certain points that can be further improved as well as insights on the appreciation of the readers on the *DRN* features. The responses more than reflect the fact that the Institute has accomplished much in its dissemination program. And while it is tempting to give one's self a pat in the back for the heartening feedback and for having carried on for the past 20 years, the responses, however, should serve as a continuing challenge and reminder that one needs to continually grow and learn. This is the message for the *DRN*. ***DRN***

Water uses...from page 6

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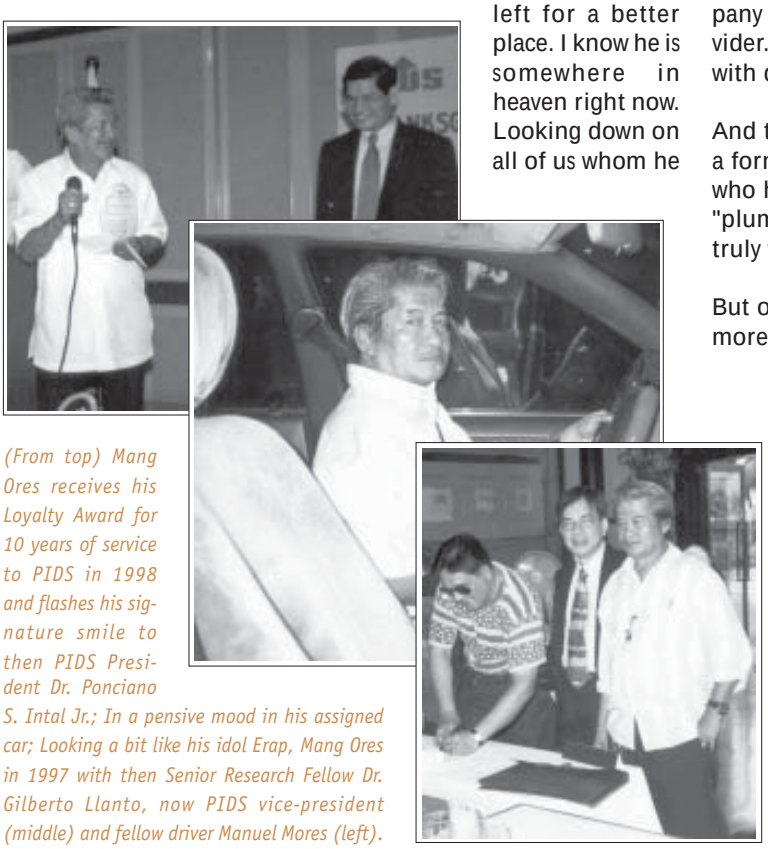
The Corporate NEWS

The Corporate News section includes brief accounts of inhouse PIDS activities, staff training and workshop results. It is intended to inform both the readers and PIDS staff members of the various activities participated in by the latter. There are stories that document the staff's effort to improve their knowledge and skills through trainings. Other stories highlight the personal interaction among the staff in the process of carrying out their individual tasks. Most of the time, the stories focus on serious matter while on certain occasions, they simply talk about the PIDS staff having fun. Whatever the topic is about, the objective is to show that each activity is meant to help the staff become better persons and performers in their respective fields so that they can contribute more to the attainment of the Institute's overall mandate.

Remembering Mang Ores

Goodbye is not a painful word, not when the one you say it to is better off than you are now. Actually, better than he could ever hope for. The pain will always be there for those he left behind. True. But it would be good to act selflessly for a while and be happy for the one who left.

Most of us at PIDS must have been saddened when Federico "Mang Ores" Ulzame left for the better place. Less than a year after he retired at the age of 65 (*see The Corporate News section of the November-December 2001 issue of this newsletter for a related article on Mang Ores' retirement*) and exactly five days before he turned 66, Mang Ores left for a better place. I know he is somewhere in heaven right now. Looking down on all of us whom he so wanted to be with for a longer time than what was planned out for him by God.



(From top) Mang Ores receives his Loyalty Award for 10 years of service to PIDS in 1998 and flashes his signature smile to then PIDS President Dr. Ponciano S. Intal Jr.; In a pensive mood in his assigned car; Looking a bit like his idol Erap, Mang Ores in 1997 with then Senior Research Fellow Dr. Gilberto Llanto, now PIDS vice-president (middle) and fellow driver Manuel Mores (left).

Mang Ores was a dear old man who only wanted the best for his family and who only had kind words for everyone. He could teach the most proud of hearts a thing or two about life. Or at least, the most difficult part of it. His humility separated him from all the others and placed him above all other men with puny characters.

He lost the fight against cancer after struggling with it for a year. Actually, he had been hiding his pain from his family and friends for more than eight years already. "I am stoic," he used to say. And how he really was! He kept the thought and the accompanying pain even from his wife just so she would not worry. Before his health gave in, his colleagues at the Research Information Staff were able to give him a final birthday celebration. He had balloons, a cake and ice cream. He was happy and smiled at his friends for his final treat. He specifically asked for this from Miss Jenny Liguton (for whom he served as driver for almost 13 years). How he must have enjoyed the festive sight judging from his sparkling eyes.

On December 6 this year, his friends and colleagues lost the company of a good man. His family lost the company of a good provider. But he need not worry. He will be remembered always—with dignity.

And to write about him, according to Miss Corazon Des-uasido, a former colleague at the Publications and Circulation Division who has worked with him for about eight years, requires her to "plumb into her deepest, deeply buried emotions to be able to truly write about the real Mang O."

But one can never really write or talk less about a man who, in more ways than one, has shown the meaning of life and struggle.

Miss Desuasido adds, "Mang Ores will always be in my heart. He is deeply, deeply special to me and to many people we both know. He left many profound one-liners that will always be remembered as they are balms to the wounded, solace to the needy, comfort to the sick-at-heart, even wake-up calls to the haughty. He once told me in a lighthearted spirit, 'I am always impecunious.' Well, who is not? I guess we will always be impoverished in spirit... compared to his wealth in spirit."

When he was interviewed last year, Mang Ores' last dream was to be the best driver. He has no need to worry. Many consider him to be the best—if not the most obedient and thoughtful—driver. To Mang Ores, have a happy and safe trip home to our Creator. We shall miss you but we are happy for you. And thanks...for everything. **DRN**

DOH seeks to strengthen regulatory powers

Citing lack of specific legal mandates, inadequate expertise, limited manpower, inadequate laboratory equipment and facilities, and weak regulatory systems, the Department of Health (DOH) has proposed to amend the laws governing its regulatory bureaus.

The reengineering of the four regulatory bureaus of the DOH, namely, the Bureau of Food and Drug (BFAD), the Bureau of Health Devices and Technology (BHDT), the Bureau of Health Facilities and Services (BHFS), and the Bureau of Quarantine and International Health Surveillance (BQIHS), will enhance DOH's capability to do its mandate of ensuring the quality, safety, accessibility and affordability of healthcare products, facilities and services. Thus said Health Assistant Secretary Rolando Domingo in a legislative forum organized by the DOH, the House of Representatives and the Philippine Institute for Development Studies (PIDS). The same sentiment was echoed by Health Undersecretary Margarita Galon in a parallel legislative forum organized by the DOH, the PIDS, the Senate Policy Studies Group, and the Office of Senator Juan Flavier, at the Senate.

"For example, the BFAD has a vital role, being the agency tasked to ensure the quality and safety of food, drugs, cosmetics and household hazardous substances. However, the absence of legal basis to police food and drug manufacturers and the lack of financial support from the national government has prevented the Bureau from pursuing its mandate effectively," Domingo added.

Consequently, Atty. Ireneo Galicia, chief counsel of the BFAD, cited the need to revise R.A. 3720 or the BFAD Regulatory Act. The proposed revisions are contained in a draft bill that BFAD, through DOH, is putting forward for legislative review and consideration.

The proposed bill includes a provision that allows BFAD to cease and hold custody of contested products when there is proof that these products endanger the health or safety of the public.

Under the present law, BFAD can only cease counterfeit drugs after a search warrant is issued by the court. This, in a way, hinders BFAD from preventing these products to be introduced in the market.

Likewise, BFAD is seeking subpoena powers, which will include the production of documents, so it can probe the production records, distribution records and other related documents to determine quickly whether manufacturers have violated any of BFAD rules and regulations. However, Galicia stressed that these additional powers would still be useless if the administrative and technical capacity of the Bureau will not be improved.

Galicia particularly called for the need to increase the annual budget of BFAD so it can acquire the necessary laboratory equipment and facilities for testing and monitoring food and drugs. For example, Galicia noted that permit applications at the Bureau are still processed and documented manually due to the absence of modern technology such as computers.

Meanwhile, to strengthen the BHDT and BHFS, the DOH is proposing to integrate all regulatory functions involving health and health-related devices and technology, including radiation health, under the BHDT while those involved in the regulation of health and health-related facilities and services will be integrated under the BHFS. These two bureaus will be granted enforcement powers to impose provisional sanctions for violations of its regulations.

Amendments to the Quarantine Law, on the other hand, include the incorporation of International Health Surveillance in the mandate of the National Quarantine Office (NQO). The NQO shall be vested with the power to call on any government agency to assist in its regulatory mandate.

The heads/senior officials of the four regulatory bodies of the DOH presented in detail the proposed bills incorporating revisions in their respective mandates during the fora held in the two houses of Congress. ***DRN***

Senator Juan Flavier gives the opening remarks during the Legislative Forum on health at the Senate. Looking on are Health Undersecretary Dr. Margarita Galon and PIDS President Dr. Mario Lamberte.

Need to revisit RP's fiscal incentives scheme

Fiscal incentives are not costless. They are foregone revenues. This was pointed out by Dr. Erlinda Medalla, senior research fellow at the Philippine Institute for Development Studies, in her study "Fiscal Incentives Revisited."

She points out that the incentives offered by the Board of Investments (BOI) to local investors are "real costs" because investments are diverted from an activity that would have paid income tax to one that is exempt from paying taxes.

She argues that local investors are more concerned about the overall fiscal and monetary policy such as overall tax rate, corporate income tax and interest rates when deciding to make an investment and not about the fiscal incentive system.

In 2000 alone, Medalla estimates the revenue loss due to fiscal incentives granted by BOI to have possibly reached between P7.2 billion to P12.5 billion. This amount represents at least a sixth of the revenues generated from corporate income tax for that year.

Thus, Medalla advises the government, particularly incentive-giving bodies like the BOI, to be aware of these costs, be choosy in granting incentives and to make sure that social benefits from preferred activities compensate for the costs. To rationalize the fiscal incentive system, Medalla designed a two-tiered approach for reforms—the generic incentives and the special incentives.

Under the first tier (generic incentives), the BOI is not required to draw an annual investment priority plan (IPP). Incentives will be given based on comparative advantage as determined by the BOI under its guidelines. Fiscal incentives include incentives for antipollution devices, double deduction for research and development, and tax allowances for special economic zones locators, among others. Nontraditional exports are almost automatically eligible and would be granted access to inputs at world prices. In the second tier (special incentives), a very selective IPP must be put in place. This should be implemented with stricter selection rules and more generous fiscal incentives. The IPP shortlist should be prepared by an interagency committee composed of representatives from the BOI (as chairman), National Economic and Development Authority (NEDA), Department of Trade and Industry (DTI), Department of Science and Technology (DOST), the private sector and other invited agencies. ***DRN***

RP leads in nursing and maritime education in APEC

Despite the presence of state-of-the-art facilities and use of high-technology equipment in nursing and maritime education institutions in other APEC economies, Philippine colleges and universities still have certain comparative advantages.

According to Dr. Veronica Ramirez, the four-year curriculum for Bachelor of Science in Nursing in the Philippines offers much more than the skills-based program offered in other APEC educational institutions. This is because the former is a combination of competency-based and community-oriented courses. She notes that the two-year general program under such curriculum is grounded in liberal arts and strengthens the character and values of nursing students as caregivers.

Dr. Ramirez is a professor at the School of Education of the University of Asia and the Pacific and her study titled "Philippine Maritime and Nursing Education: Benchmarking With APEC Best Practices"was carried out under the auspices of the Philippine APEC Study Center Network, whose lead convenor is the Philippine Institute for Development Studies.

"The medium of instruction in all local nursing institutions is English. Filipino nurses' skills, competence and confidence in the use of the English language do not only prepare them for international licensure examinations but also allow them to participate in research in nursing and other health sciences," Ramirez adds.

Meanwhile, in the area of maritime education, Ramirez maintains that the 3-1 bachelor's degree program of local maritime schools—which consists of general education, specialization courses and one-year apprenticeship—is also an advantage.

"General education strengthens the character and values necessary for students who serve locally and internationally. The emphasis on discipline, hard work and team work are essential characteristics of servicemen in the industry," she emphasizes.

Specialization courses, on the other hand, equip students with the necessary skills required in the field while the apprenticeship program provides the students with first hand experience in the different departments of the shipping industry.

However, Dr. Ramirez underscores the inability of local institutions to produce high level research as well as offer courses that address both present and future needs of the maritime industry. For instance, she notes that developed countries in the APEC region such as Hong Kong, Singapore, Australia and the United States have already transformed what they used to offer as maritime courses into offshore and sea-based courses.One example is Naval Architecture, which is basically oriented toward the construction and production of high-technology driven naval vessels. "Courses offered by Philippine institutions, on the other hand, remain inclined to produce the manpower to man the operations of these naval vessels," Ramirez concludes. ***DRN***