

Views on the NTFS - One More Look*

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Network members will recall receiving in 1988, two separate questionnaires. The first of these was sent in January 1988 with Fishbyte Vol. 5(3) and pertained to the effectivity of the services offered by the Network. The second questionnaire, which was sent separately, on behalf of UNESCO's Marine Science Division, addressed the current and future issues in training and education in marine science and was slightly modified to elicit views regarding the Network's possible role. Results of the latter were used to prepare a paper entitled "Training and Education in Marine Science: the Views of 130 Members of ICLARM's Network of Tropical Fisheries Scientists," which was presented at the Workshop on Teaching and Training in Marine Sciences for the Year 2000 and Beyond, held in Paris from June 6-10, 1988 (see D. Pauly's editorial in Fishbyte 6(3)).

The editorial by J.L. Munro of the April 1988 issue of Fishbyte presented preliminary results of the first of the questionnaires described above, which sought to establish the effectivity of the NTFS in disseminating relevant information to tropical fisheries scientists and encouraging communication among them. The preliminary results presented in this editorial report were *"that the most useful service offered to members is Fishbyte while database searches were the least used and that the main articles in Fishbyte are the most interesting followed by news items and bibliographic information."*

This paper presents a more comprehensive description of the results of the first questionnaire (after the responses have stopped trickling in) but the major points have remained unchanged. Additionally, statistical tests were employed to detect whether significant differences exist in the responses of members (specifically in the rankings) from different geographical regions.

A total of 147 questionnaires were received and classified into ten groups, nine of which represent geographical regions. The expatriates (EXPATS), here Europeans or North Americans working in Third World countries, constitute a separate group. The distribution of respondents among the ten groups are shown in Table 1.

Table 1. Respondents to NTFS Questionnaire, by Region.

	Frequency
Africa	20
Australia	11
Europe	10
Central America & Caribbean	16
North America	20
Pacific & Indian Ocean Islands	16
South America	12
South Asia & Mideast	12
Southeast Asia	21
EXPATS	9
TOTAL	147

General Feedback

The following are general inferences from the survey. All respondents feel they have benefited from being members of NTFS (100% affirmative responses!), with Fishbyte being ranked as the most useful service and database searches, last. Among the respondents, 87% report that all or most of the contents of Fishbyte are read. The most interesting contents according to ranking are: main articles, bibliographic information, news items, software development, news from members, editorial, and letters to the editor.

Fishbyte has encouraged 74% of respondents to communicate with other members mostly to request reprints and to exchange information. It is a striking fact, though, that a significant number of members are not aware that database searches are offered by the Network. Thus, only 25% of respondents have used this service.

A Closer Look

Perceptions of network members pertaining to some issues in marine science education and training for the year 2000 and beyond were observed

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to be significantly different among geographical regions (Cruz and Pauly 1988). These differences can be attributed to factors that transcend physical barriers including factors that are influenced by the state of economic development, culture, and the relative importance of the fishery/marine resource. Although the EXPATS do not constitute a well-defined geographical grouping, their expertise and level of exposure defines them as an independent group.

Regional differences are hypothesized to be reflected in the responses pertaining to three areas: a) ability to communicate; b) prioritization of services offered by the Network; and, c) prioritization of contents of Fishbyte.

The first issue tests the classical "North to South" hypothesis regarding transfer of knowledge, which implies that communication is largely initiated by European and North American countries. To check for this, a *Chi-square (X²) test* was used to determine the independence of responses pertaining

to the frequency of communication among the ten groupings (Siegel 1956; Gibbons 1971). This is reflected in the question, "have you ever written to a fellow member of NTFS as a result of what you read in Fishbyte," to which the answer is either YES or NO. Table 2 shows the frequency of YES and NO answers per region. The difference between the *observed* number of responses per grouping and the *expected* numbers is used to compute the X² value. In this case, the value is 2.56, which is lower than the specified critical value. Assuming that the sample is representative of the NTFS membership, the results suggest that the "North to South" hypothesis is not valid with regard the NTFS.

A further examination of the priorities of respondents point to the same result. Two sets of information were prioritized. The first one ranks the services offered by the NTFS (see Table 3) while the second one ranks the contents of Fishbyte (see Table 4). *Kendall's coefficient of concordance, w*, was used to check whether there is significant agreement/

Table 2. Frequency of communication of respondents, by region.

	Africa	Southeast Asia	South Asia & Mideast	North Australia	C. America Europe	South America	Pacific & Caribbean	America	Indian Ocean	EXPATS	Totals
Yes	16	17	9	8	6	15	12	8	12	6	109
No	4	4	3	3	4	5	4	4	4	3	38
Total Respondents	20	21	12	11	10	20	16	12	16	9	147
Computed X ²	2.56										
Critical Value of X ² , 9 degrees of freedom:											
1% level of significance	21.67										
5% level of significance	16.92										

Table 3. Rankings of services offered by NTFS, by region.

	Fishbyte	Reprints	addresses	FAO reports	dbase searches
Africa	1	3	4	2	5
Southeast Asia	1	2	4	3	5
South Asia & Mideast	1	3	4	2	5
Australia	1	4	2	3	5
Europe	1	4	2	3	5
North America	1	4	2	3	5
C. Amer. & Caribbean	1	2	3.5	3.5	5
South America	1	3	2	4	5
Pacific & Indian Ocean	1	3	2	5	4
EXPATS	1	2	3.5	3.5	5
Average variance, S = 766					
Kendall's coefficient of concordance, w = 0.77					
Critical Values, k=10, n=5:					
1% level of significance	309.1				
5% level of significance	231.2				

Table 4. Rankings of contents of Fishbyte, by region.

Info.	News Items	Editorials	Letters to Ed.	News	Main Articles	Software Devt	Biblio.
Africa	5	6	4	2	1	7	3
Southeast Asia	2	5	7	3	1	6	4
South Asia & Mideast	3.5	4	5	3.5	1	6	2
Australia	2	6	7	5	1	3	4
Europe	3	4.5	4.5	6	1	7	2
North America	2	4	6	5	1	7	3
C. Amer. & Caribbean	3	6	7	5	1	4	2
South America	4	6	7	5	1	2	3
Pacific & Indian Ocean	2	5	6	7	1	4	3
EXPATS	4	5	7	6	1	3	2

Average variance, $S = 1822$

Kendall's coefficient of concordance, $w = 0.65$

Critical Values,
 $k=10, n=7$
 1% level of significance 737
 5% level of significance 571

disagreement over the rankings (Siegel 1956; Gibbons 1971). The computed values of w , associated with estimates of average variance, are highly significant in both cases. This implies that the respondents are applying essentially the same standards in giving the rankings.

Discussion

The results presented thus far are indeed encouraging. The initiative started by the NTFs "to increase communication among tropical fisheries scientists working in virtual isolation" has obviously snowballed. Congratulations to all!

Acknowledgements

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References

- Cruz, A. and D. Pauly. 1988. Training and education in marine science: the views of 130 members of ICLARM's Network of Tropical Fisheries Scientists. Paper presented at the "UNESCO Workshop in Teaching and Training in Marine Science for the year 2000 and beyond," June 1988, UNESCO, Paris, France. (To be published in meeting report).
- Gibbons, J.D. 1971. Nonparametric statistical inference. McGraw-Hill, New York, 306 p.
- Siegel, S. 1956. Nonparametric statistics for the behavioural science. McGraw-Hill Kogakusha, Tokyo, 312 p.

Contributions to Fishbyte

Contributions to Fishbyte in the form of short papers, notes, letters to the editor and news items are constantly needed. Six pages of Fishbyte, including figures and references, is an absolute maximum for papers and shorter notes are preferred. Topics on which we focus are **methods** for fish stock assessment, parameter estimation and data acquisition and **systems** for the management of fishery resources, including economic, social, political and practical aspects. Contributions

should preferably be in English but short contributions in Spanish or French will also be accepted. Figures do not need to be camera-ready, i.e., will be redrafted at ICLARM if necessary.

Address all contributions to

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