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Internationalization of higher education in fisheries sciences in Vietnam, Thailand, and the Philippines: Results of a survey of motivations and priorities

John R. BOWER1), Wenresti GALLARDO2) and Sirisuda JUMNONGSONG3)

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Abstract

This study presents and discusses the results of a survey of internationalization of higher education in fisheries science at four universities in Vietnam, Thailand, and the Philippines. Faculty members were asked about the importance, rationales, benefits and risks of internationalization at their universities. Information was also collected on the importance of foreign-language training, geographic priorities, and obstacles. More than 90% of respondents ranked internationalization either a high or medium priority. At every university, the most important reason to internationalize was to strengthen research and knowledge capacity and production. Key benefits included improved academic quality, and strengthened research and knowledge production. Nearly two-thirds of respondents noted internationalization also has associated risks; the most important were loss of cultural or national identity, and brain drain. The foreign language ranked most important was English. Japan and the ASEAN region ranked consistently high in importance for international collaboration, indicating the importance of intra-Asia collaboration, but efforts should be made to prevent less-developed countries and institutions from being left behind. The most important obstacle to internationalization at all universities was lack of financial support.

Key words: Internationalization, Higher education, Southeast Asia, ASEAN Economic Community

Introduction

Fisheries and aquaculture make vital contributions to food security and poverty alleviation in developing countries (Allison, 2011). Millions of the world’s poor depend on fish both as a source of protein and micronutrients, and as their main source of income (FAO, 2012), so it is critical that fishery and aquaculture systems are sustainable. This is especially true in Southeast Asia, where fisheries are vitally important to the food security and economies of the region (Lymer et al., 2010).

Institutions of higher education can play an important role in promoting sustainable development because of their scientific expertise, unbiased position, and tradition of engaging in local problem solving (Sachs, 2009). They develop the human capital needed to compete in a global economy, as well as new knowledge and technologies that have economic impacts (Bloom et al., 2006; McMahon, 2009). But higher-education institutions in developing countries now face growing external challenges, including globalization. In Southeast Asia, the ten member states of the Association of Southeast Asian Nations (ASEAN) have agreed to create an integrated ASEAN Economic Community (AEC) by the end of 2015 (ASEAN Secretariat, 2008). One goal of the AEC is to integrate the higher-education systems among member states through measures such as increased student and faculty mobility, synchronized academic calendars, mutually recognized university degrees, and increased collaboration in research and extension.

Internationalization of higher education (defined here as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education (Knight, 2003a)) has become a topic of interest and debate (Knight, 2008). In Southeast Asia, rapid changes are going to pose new challenges for higher-education institutions. In this study, we identify and discuss the key issues and trends now facing fisheries schools in this region.

Materials and Methods

A survey was conducted between 2011 and 2013 of faculty members at four of the largest fisheries schools in Southeast Asia: Kasetsart University, Faculty of Fisheries (Thailand); Nong

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Lam University, Faculty of Fisheries (Vietnam); Can Tho University, College of Aquaculture & Fisheries (Vietnam); and the University of the Philippines Visayas, College of Fisheries and Ocean Sciences (Table 1).

Information was collected using a questionnaire modeled on one used in a survey of the internationalization of higher education conducted by the International Association of Universities (Knight, 2003b). The questions focused on six topics: (a) importance of internationalization and expected benefits, (b) reasons for internationalization, (c) risks, (d) foreign-language training, (e) geographic priorities, and (f) obstacles.

For topics (a—importance), (e), and (f), respondents were asked to rank each factor as being of high, medium, low, or no importance. To determine the relative rankings of factors in topics (e), and (f), the scores were transformed to importance indices based on the following formula:

\[
\text{Relative importance index} = \frac{\sum w_i}{AN}
\]

where \( w \) is the weighting given to each factor by the respondents, ranging from 1 (no importance) to 4 (high importance), \( A \) is the highest weight (i.e., 4) and \( N \) is the total number of samples. For topics (a—benefits), (b), (c), and (d), respondents were asked to choose the three most important factors from lists provided. All factors on the lists are shown in the figures for these topics (i.e., Figures 2, 3, 4 and 7). In the case of tied ranks, each factor was treated equally (e.g., when several factors were ranked most important).

The questionnaires were sent to each university by mail for distribution to all faculty members, and follow-up discussions were conducted at each university. Response rates from faculty members at the four institutions ranged approximately 30-60%.

### Results

**Importance of internationalization and expected benefits**

Two-thirds of the respondents ranked internationalization a high priority at their institution, as did most respondents in Vietnam and the Philippines (Figure 1). At each institution, internationalization was ranked either a high or medium priority by 93-100% of the respondents. Nearly all respondents (99%) said that promoting and investing in internationalization of higher education offers benefits, confirming its importance. The overall top-ranked benefit was improved academic quality, followed by strengthened research and knowledge production (Figure 2). In Vietnam, innovation in curriculum, teaching and research was also seen as an important benefit. Increased revenue generation was ranked low in importance as an expected benefit, particularly in Thailand and the Philippines.

<table>
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<th>University</th>
<th>School</th>
<th>Country</th>
<th>Respondents (No.)</th>
</tr>
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<tr>
<td>Kasetsart University</td>
<td>Faculty of Fisheries</td>
<td>Thailand</td>
<td>30</td>
</tr>
<tr>
<td>Nong Lam University</td>
<td>Faculty of Fisheries</td>
<td>Vietnam</td>
<td>21</td>
</tr>
<tr>
<td>Can Tho University</td>
<td>College of Aquaculture &amp; Fisheries</td>
<td>Vietnam</td>
<td>18</td>
</tr>
<tr>
<td>University of the Philippines Visayas</td>
<td>College of Fisheries and Ocean Sciences</td>
<td>Philippines</td>
<td>17</td>
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![Bar chart showing priority levels for each university](chart.png)

Fig. 1. Importance of internationalization at each institution. Figure shows percentage of respondents that selected each priority level.
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**Reasons for internationalization**

The most important reason to internationalize was the same at every institution – to strengthen research and knowledge capacity and production (Figure 3). Also important was its contribution to the institution’s academic quality. Thus the key rationales driving internationalization and its perceived benefits were consistent. The lowest-rank reason at all institutions was to diversify income generation.

**Risks**

The universal perception that internationalization benefits higher education was qualified by the fact that 63% of the respondents said that it also brings risks. The overall most important was loss of cultural or national identity (Figure 4), selected by 43% of respondents as the most significant risk. This was followed by brain drain, which was ranked first by 33% of the respondents. The issue of language is often closely tied to the question of culture, but the overuse of English as a medium of instruction was viewed as a low risk at all institutions.

**Foreign-language training**

The demand for foreign-language training was reported to be increasing in Vietnam (100% of respondents) and Thailand (83%) (Table 2). In both countries, English was ranked by far the most important foreign language. (In the Philippines, English is an official language and, thus, not considered a “foreign language”, so this country was excluded from this section of the study.) Languages of secondary importance included Mandarin Chinese in Thailand, and Japanese and French in Vietnam.

**Geographic priorities**

Japan and the ASEAN region ranked consistently high in importance for international collaboration, indicating the importance of intra-Asia collaboration (Figure 5). Europe was also an important region for Vietnam. Collaboration with China, however, was ranked of lower importance. The region of lowest importance for all institutions was Africa. Within the ASEAN countries, Thailand and Malaysia ranked consistently high (Figure 6). Two countries that consistently ranked low were Burma (Myanmar) and Cambodia.

**Obstacles**

At every institution, the biggest obstacle to internationalization was lack of financial support (Figure 7); this obstacle was ranked of high importance by 57% of respondents. The rankings suggest that senior leaders at institutions recognize the importance internationalizing and that faculty members are interested and involved,
Overuse of English as a medium of instruction
Homogenization of curriculum
Jeopardize the quality of education
Growing elitism in access to international education opportunities
Brain drain
Loss of cultural or national identity

Fig. 3. Importance of reasons for internationalization at each institution. Figure shows percentage of respondents that selected each factor as the most important reason.

Fig. 4. Importance of risks associated with increased internationalization at each institution. Figure shows percentage of respondents that selected each factor as the most important risk.
but that efforts are being hindered by a lack of money, time and experienced staff.

**Discussion**

Nearly all respondents ranked internationalization a high priority, and in all three countries, internationalization is viewed as an important way to strengthen research and knowledge production, and improve academic quality. But while the benefits of internationalization are numerous, there are also associated risks. Related to human resource development is the issue of brain drain, which has been a long-standing concern in much of Southeast Asia (Asian Development Bank, 2012). The international movement of highly skilled persons is complex, and some prefer to use the
Little recognition or interest in internationalization by senior leaders

International work not recognized for promotion or tenure

Lack of faculty interest and involvement

Limited experience and expertise of staff to implement internationalization plan

Administrative inertia or bureaucratic difficulties

Lack of policy/strategy to guide process

Competing priorities for time and resources at institution

Lack of financial support

Fig. 7. Importance of obstacles to internationalization at each institution. Ranks are based on the relative importance index of each obstacle (described in text).

Fig. 6. Importance of ASEAN countries for international collaboration at each institution. Ranks are based on the relative importance index (described in text).
term brain circulation rather than brain drain (Montgomery, 2013),
but recent evidence suggests that in the current era of globalization,
the flow continues largely in one direction, from poorer to wealthier
countries (Altbach, 2013a). When the AEC is established in
2015, restrictions will be lifted within ASEAN countries on the
movement of skilled labor, so policymakers will need to consider
mechanisms that enhance the benefits of this increased mobility,
but alleviate its negative consequences.

Critics have noted the dangers associated with the global spread
of English (e.g., Phillipson, 1992), but respondents in our survey
did not view overuse of English in instruction as a risk. English is
now spoken by close to 2 billion people in more than 120 nations
and the medium for over 90% of international science
communication (Montgomery, 2013), so it is requisite for
participating at an international level. There is little chance this
will change soon. No country can hope to advance scientifically
without having scientists who can communicate in English. We
urge higher-education institutions to fully integrate English into
their science curricula, with English considered a core subject
rather than as a “foreign language” (Gradoll, 2006).

At all institutions surveyed, the most significant obstacle to
internationalization was lack of financial support. In many
countries, the state has traditionally been the main funder of higher
education, but throughout Asia, the funds available have been
squeezed due to exploding enrollment rates (Asian Development
Bank, 2011). One current strategy is to encourage the growth of
fee-based higher education. The rationale for introducing new
fees in public universities is strong, but shifting costs to students
raises new issues, most notably related to equity of access (Asian
Development Bank, 2011). Increased revenue generation was
seen by respondents as one of the least important benefits of
internationalization, and the least important rationale at every
school was to diversify income generation, which indicates that at
the institutions surveyed, economic rationales are not the top driver
of internationalization. Similar results have been reported in other
surveys of internationalization in higher education (Knight, 2012).

One result of globalization has been the growing importance of
regions. This can be seen in regional-based trade blocs and
organizations, but is also true for higher education (Knight, 2008).
Cross-border collaboration among higher-education institutions is
a widely advocated strategy for strengthening higher-education
systems (Sakamoto and Chapman, 2011). In the present study,
respondents ranked Japan and ASEAN the overall most important
regions for international collaboration. Such intraregional collab-
oration among Asian universities has grown dramatically during
the last ten years.

Institutions in developing countries need such collaboration to
build capacity, especially through staff training and development.
These are the countries that will benefit most from regional
collaboration. Yet their universities can face disadvantages in the
systems commonly used to rank global institutions of higher
education, so it is important that universities in developed countries
not limit academic cooperation to universities listed in the global
rankings (Altbach, 2013b). Countries ranked low priority for
international collaboration in the present study tend also to be
ranked low on the Human Development Index (e.g., Burma and
Cambodia) (United Nations Development Programme, 2013). Many
will benefit from internationalization of higher education,
but efforts must be made to prevent less-developed countries and
institutions from being left behind.

Conclusion

Fisheries in Southeast Asia play a critical role in ensuring food
security and providing livelihoods, particularly in poor coastal
communities. A key issue facing fishers is depleted fish stocks
(Stobutzki et al., 2006), which are due largely to overfishing and
aggravated by habitat and environmental degradation, as well as
poor economic conditions in fishing communities. Annual per
capita fish consumption in Southeast Asia between 1961 and 2009
more than doubled (FAO, 2012), and as the population increases,
so too will the demand for fish, which will increase concerns about
food security (Garces et al., 2008). Due to their range of scientific
knowledge, institutions of higher
education can help solve many of the issues now facing fisheries in
Southeast Asia by training and producing graduates who can
contribute to fisheries and aquaculture development. But as
globalization reshapes these institutions, they face inherent risks
and significant obstacles, particularly lack of financial support, that
limit their ability to compete internationally. Increased financial
support from governments will be crucial for improving the quality
of fisheries education in a region where millions of people depend
on fish for food and income.

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