Feed conversion ratio (FCR) improved with decreasing stocking density ranging from 2.1 to 3. Yield per cropping increased with stocking density and ranged from 1,874 to 4,530 kg ha^{-1}.

Production values obtained in the cage cultured *M. rosenbergii* were comparable to or even higher than those reported from pond culture. Results show that the farming of *M. rosenbergii* in cages in lakes is a viable alternative to pond culture and has the potential of improve aquaculture production in lakeshore fish farming communities.

iii) Reproductive performance of various stocks and species of freshwater prawn fed high and low protein diets

This preliminary study aims to determine the reproductive efficiency of FW prawn broodstock fed high- and low-protein diets. Thus far, two *Macrobrachium* sp. (hatchery-bred *Macrobrachium rosenbergii* and wild-sourced *Macrobrachium sp.*) are being evaluated. In collaboration with the Mindanao State University (through Dr. Dejarme), more stocks shall be collected and their reproductive traits shall be compared. This strain evaluation experiment hopes to identify stocks and/or species that can later be used in improving the present hatchery stocks of *M. rosenbergii* either through crossbreeding/ hybridization and other conventional selective breeding methods.

These plans to genetically document stocks are incorporated in a general proposal entitled "Genetic characterization, domestication and improvement of *Macrobrachium rosenbergii* in the Philippines" to be pursued further under the collaboration research.

Collection of Wild Stocks, Domesticatication and Propagation of *Macrobrachium rosenbergii*
Mr. Westly R. Rosario and Editha C. Roxas of BFAR NIFTDC.

There is an expanding interest in the culture of freshwater prawn in the Philippines. This is attributed to the extensive campaign of the government, the Bureau of Fisheries and Aquatic Resources (BFAR) and some private entrepreneurs to disseminate information and seeds of the prawn nationwide.

Although freshwater aquaculture in the Philippines is still dominated by tilapia, which is an exotic fish, the profit from tilapia culture is not well appreciated except for family consumption or nutrition purposes. The freshwater prawn, an indigenous species, remains to be an important species. With freshwater prawn as an alternative species, farmers can diversify and derive higher profit from their ponds. In the Philippines, *Macrobrachium rosenbergii* stocked in 2,000 m^2 ponds may grow to about 45 g after four months and 90 to 100 g in seven months of culture (Rosario, 2002). The price of the species is five times higher than tilapia.

During the first Round Table Discussion on the Development of Genetically Improved Strain of *Macrobrachium* held at the Freshwater Aquaculture Development Center, Sukabumi, West Java, Indonesia in November 2003, the delegates from Thailand reported that the Philippine wild stocks of *Macrobrachium, M. rosenbergii rosenbergii* Philippine strain could be a better variety and therefore must be protected from contamination by non-indigenous strains. The report supports and confirms the importance of the activity of the National Integrated Fisheries and Development Center (NIFTDC) to collect live specimens of various strains of *Macrobrachium* in the country and review their performance in terms of growth and fecundity.

Geographical Distribution

In the Philippines, wild catch is available from the river tributaries and lakes in the provinces of Pangasinan, La Union, Ilocos Sur, Ilocos Norte, Cagayan, Pangasinan, Pampanga, Bulacan, Laguna, Palawan, Sorsogon, Leyte, Samar, Cotabato, Lanao, Maguindanao, Agusan and other parts of Mindanao. A survey by Agasen (2001) reported 12 species in Luzon with *Macrobrachium rosenbergii* as dominant species.

BFAR-NIFTDC collected live wild stocks of the species from Bulacan, Palawan, Bicol, and two provinces in Mindanao from Year 2002 and domesticated them at the Center. Due to limited space and manpower, the strains found to be inferior in growth performance were discarded.

Testing of Local Strains

One local strain of *Macrobrachium* (BFAR 1) collected from Mindanao was tested to have better performance than the old strain used by the Center (BFAR 0). With the BFAR 0 as benchmark, the larval rearing period of BFAR 1 is shorter by 8 to 13 days. The normal rearing period of BFAR 0 is 45 to 50 days, whereas BFAR 1 only requires 37 to 40 days. The larval rearing period is much shorter during hot months. The size of BFAR 1 larvae are bigger by 25 %. The survival rate of the larvae during rearing has improved by about 12 %. Results of field trials on growth performance are still being evaluated.

There were more than 200,000 postlarvae produced and distributed to the farmers for culture by BFAR-NIFTDC from October 2003 to present. From 100 breeders collected from the wild, the Center is now using 500 F2 and F3 breeders.

One problem encountered in the use of another local strain (BFAR 2) is the early release or detaching of eggs from the female breeders.

The basic problem encountered by BFAR-NIFTDC in the collection and use of local strains is the proper identification of species. It is therefore recommended that the collaborating countries should establish uniform guidelines and references in order to solve the problem.

Literature Cited

Rosario, W. R. 2002. Culture of Freshwater Prawn *(Macrobrachium rosenbergii) in Earthen Ponds, BFAR-NIFTDC Extension Paper, 3pp.*

Freshwater Prawn Program of BFAR

Dr. Melchor M. Tayamen of BFAR NFFTC.

The giant freshwater prawn *(Macrobrachium rosenbengii)* is one of the indigenous prawns found in many parts of the country. Locally known as *ulang*, it is a hardy species that is easily farmed. On the average, farmed *ulang* weighs from 30 to 100 grams, which translates to 10 to 25 pieces per kilo. This is very much comparable to the medium to large or jumbo sizes of brackishwater tiger shrimps or *sugpo*. In the wild, *ulang* grow as much as 500 g and sells at 300 to 350 pesos/kg ($1=₱55.50), however, the quantity harvested is limited and is dependent on its seasonality.

Despite the development of both hatchery and grow-out technologies for *ulang*, there is really no significant commercial production in the country yet, except in BFAR-operated hatcheries in Muñoz and in Dagupan. To date, the only private *ulang* hatchery is MBL Farms producing up to 150,000 PL or post-larvae per run (45 days), although there are entrepreneurs trained in Muñoz who are also operating small backyard hatcheries for prawns.

With the emerging global market on this giant freshwater prawn coupled with improved technologies, it is but imperative to speed up the development of the industry in the country. However, the industry is faced with problems and constraints that include:

- Insufficient breeders