# APPENDIX A

## *FEDERAL REGISTER* NOTICES

**DEPARTMENT OF COMMERCE**

**International Trade Administration**

**(A–549–822)**

## Notice of Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order: Certain Frozen Warmwater Shrimp from Thailand[1]

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**EFFECTIVE DATE:** February 1, 2005.

**FOR FURTHER INFORMATION CONTACT:** Irina Itkin or Alice Gibbons, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482–0656 or (202) 482–0498, respectively.

**SUPPLEMENTARY INFORMATION:**

### Amendment to Final Determination

In accordance with sections 735(a) and 777(i)(1) of the Tariff Act of 1930, as amended, (the Act), on December 23, 2004, the Department published its notice of final determination of sales at less than fair value (LTFV) in the investigation of certain frozen and canned warmwater shrimp from Thailand. *See Notice of Final Determination of Sales at Less Than Fair Value and Negative Final Determination of Critical Circumstances: Certain Frozen and Canned Warmwater Shrimp from Thailand*, 69 FR 76918 (Dec. 23, 2004) (*Final Determination*). On December 23, 2004, we received an allegation, timely filed pursuant to 19 CFR 351.224(c)(2), from the petitioners (*i.e.*, the Ad Hoc Shrimp Trade Action Committee, Versaggi Shrimp Corporation, and Indian Ridge Shrimp Company) that the Department made a ministerial error with respect to its exclusion of "dusted" shrimp from the scope of this investigation. On December 28, 2004, Eastern Fish Company, Inc., and Long John Silver's, Inc., interested parties in this investigation, submitted a response to the petitioners' December 23, 2004, ministerial error allegation. In addition, on December 30, 2004, we received allegations, timely filed pursuant to 19 CFR 351.224(c)(2), from the petitioners and the respondents (*i.e.*, Andaman Seafood Co., Ltd., Chanthaburi Seafoods Co., Ltd., and Thailand Fishery Cold Storage Public Co., Ltd. (collectively, the Rubicon Group); Thai I–Mei Frozen Foods Co., Ltd. (Thai I–Mei); and the Union Frozen Products Co., Ltd. (UFP)) that the Department also made ministerial errors in the final margin calculations. On January 6, 2004, we received submissions containing rebuttal comments from the petitioners, the Rubicon Group, and UFP.

After analyzing the Rubicon Group's, Thai I–Mei's, UFP's, and the petitioners' submissions, we have determined, in accordance with 19 CFR 351.224(e), that we made the following ministerial errors in our calculations performed for the final determination:

- We unintentionally calculated more than one cost for the same control number (CONNUM) for the Rubicon Group in several instances;
- We inadvertently compared Thai baht–denominated commission expenses to those denominated in U.S. dollars for Thai I–Mei;
- We incorrectly applied weighted–average costs to merchandise for which the CONNUM was revised in the final determination, rather than using the actual verified costs for certain sales for Thai I–Mei. In correcting this error, we discovered that Thai I–Mei failed to report costs for certain of these re–coded products. Therefore, we based the costs for these products on facts available. As facts available, we used the average total cost of manufacturing of all CONNUMs;
- We recalculated the weighted–average selling expenses and constructed value profit rate for Thai I–Mei using the revised figures for the Rubicon Group and UFP; and
- We revised the calculation of general and administrative and interest expenses for UFP to exclude packaging costs (*i.e.*, reported in the field PACK).

Correcting these errors results in revised margins for the Rubicon Group and Thai I–Mei. In addition, we have revised the calculation of the "all others" rate accordingly.

For a detailed discussion of the ministerial errors alleged by the petitioners and respondents, as well as the Department's analysis, see the January 24, 2005, memorandum to Louis Apple from the Team entitled "Ministerial Error Allegations in the Final Determination of the Antidumping Duty Investigation on Certain Frozen Warmwater Shrimp from Thailand."

Therefore, in accordance with 19 CFR 351.224(e), we are amending the final

[1] On January 21, 2005, the International Trade Commission (ITC) notified the Department of Commerce (the Department) of its final determination that two domestic like products exist for the merchandise covered by the Department's investigation: 1) certain non-canned warmwater shrimp and prawns; and 2) canned warmwater shrimp and prawns. The ITC determined that there is no injury or threat thereof to the U.S. domestic industry regarding imports of canned warmwater shrimp and prawns from Thailand; therefore, canned warmwater shrimp and prawns will not be covered by the antidumping duty order.

determination of sales at LTFV in the antidumping duty investigation of certain frozen warmwater shrimp from Thailand. The revised weighted-average dumping margins are in the "Antidumping Duty Order" section, below.

**Antidumping Duty Order**

In accordance with section 735(a) of the Act, the Department made its final determination that certain frozen and canned warmwater shrimp from Thailand is being, or is likely to be, sold in the United States at LTFV. *See Final Determination*. On January 21, 2005, the ITC notified the Department of its final determination pursuant to section 735(b)(1)(A)(I) of the Act that an industry in the United States is materially injured by reason of LTFV imports of subject merchandise from Thailand. In its final determination, however, the ITC determined that two domestic like products exist for the merchandise covered by the Department's investigation: 1) certain non-canned warmwater shrimp and prawns; and 2) canned warmwater shrimp and prawns. The ITC determined pursuant to section 735(b)(1) of the Act that a domestic industry in the United States is not materially injured or threatened with material injury by reason of imports of canned warmwater shrimp and prawns from Thailand. Therefore, the ITC's affirmative determination of material injury covered all non-canned warmwater shrimp and prawns other than those specifically excluded in the "Scope of Order" section, below. Accordingly, the scope of the antidumping duty investigation has been amended as described above to reflect the ITC's distinction between certain non-canned warmwater shrimp and prawns and canned warmwater shrimp and prawns. Specifically, canned warmwater shrimp and prawns are excluded from the scope of the order.

In cases where the ITC specifically excludes a product in its final injury determination, the Department may exclude that product from its final margin calculation. *See Antidumping Duty Orders; Certain Stainless Steel Plate in Coils from Belgium, Canada, Italy, the Republic of Korea, South Africa, and Taiwan*, 64 FR 27756 (May 21, 1999). However, because the respondents did not export or sell canned warmwater shrimp and prawns to the United States during the period of investigation (POI), no recalculation of the dumping margins is warranted, and therefore we are not amending the final determination calculations to exclude any sales of canned warmwater shrimp and prawn products.

Therefore, in accordance with section 736(a)(1) of the Act, the Department will direct U.S. Customs and Border Protection (CBP) to assess, upon further instruction by the Department, antidumping duties equal to the amount by which the normal value of the merchandise exceeds the export price or constructed export price of the merchandise for all relevant entries of certain frozen warmwater shrimp from Thailand. These antidumping duties will be assessed on all unliquidated entries of certain frozen warmwater shrimp from Thailand entered, or withdrawn from the warehouse, for consumption on or after August 4, 2004, the date on which the Department published its *Notice of Preliminary Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Negative Critical Circumstances Determination: Certain Frozen and Canned Warmwater Shrimp From Thailand*, 69 FR 47100 (Aug. 4, 2004).

On or after the date of publication of this antidumping duty order in the **Federal Register**, CBP will require, at the same time that importers would normally deposit estimated duties on this merchandise, a cash deposit equal to the estimated weighted-average antidumping duty margins as listed below. The "all others" rate applies to all exporters of subject merchandise not listed specifically. We determine that the following weighted-average margin percentages exist for the POI:

| Manufacturer/exporter | Original Final Margin | Amended Final Margin |
|---|---|---|
| Andaman Seafood Co., Ltd. | 5.79 | 5.91 |
| Chanthaburi Seafoods Co., Ltd. | 5.79 | 5.91 |
| Chanthaburi Frozen Food Co., Ltd. | 5.79 | 5.91 |
| Phattana Seafood Co., Ltd. | 5.79 | 5.91 |
| S.C.C. Frozen Seafood Co., Ltd. | 5.79 | 5.91 |
| Thai I-Mei Frozen Foods Co., Ltd. | 6.20 | 5.29 |
| Thailand Fishery Cold Storage Public Co., Ltd. | 5.79 | 5.91 |
| Thai International Seafood Co., Ltd. | 5.79 | 5.91 |
| The Union Frozen Products Co., Ltd. | 6.82 | 6.82 |
| Wales & Company Universe, Ltd. | 5.79 | 5.91 |
| Y2K Frozen Food Co., Ltd. | 5.79 | 5.91 |
| All Others | 6.03 | 5.95 |

**Scope of Order**

The scope of this order includes certain warmwater shrimp and prawns, whether frozen, wild-caught (ocean harvested) or farm-raised (produced by aquaculture), head-on or head-off, shell-on or peeled, tail-on or tail-off,[2] deveined or not deveined, cooked or raw, or otherwise processed in frozen form.

The frozen warmwater shrimp and prawn products included in the scope of this order, regardless of definitions in the Harmonized Tariff Schedule of the United States (HTS), are products which are processed from warmwater shrimp and prawns through freezing and which are sold in any count size.

The products described above may be processed from any species of warmwater shrimp and prawns. Warmwater shrimp and prawns are generally classified in, but are not limited to, the *Penaeidae* family. Some examples of the farmed and wild-caught warmwater species include, but are not limited to, whiteleg shrimp (*Penaeus vannemei*), banana prawn (*Penaeus merguiensis*), fleshy prawn (*Penaeus chinensis*), giant river prawn (*Macrobrachium rosenbergii*), giant tiger prawn (*Penaeus monodon*), redspotted shrimp (*Penaeus brasiliensis*), southern brown shrimp (*Penaeus subtilis*), southern pink shrimp (*Penaeus notialis*), southern rough shrimp (*Trachypenaeus curvirostris*), southern white shrimp (*Penaeus schmitti*), blue shrimp (*Penaeus stylirostris*), western white shrimp (*Penaeus occidentalis*), and Indian white prawn (*Penaeus indicus*).

[2] "Tails" in this context means the tail fan, which includes the telson and the uropods.

Frozen shrimp and prawns that are packed with marinade, spices or sauce are included in the scope of this order. In addition, food preparations, which are not "prepared meals," that contain more than 20 percent by weight of shrimp or prawn are also included in the scope of this order.

Excluded from the scope are: 1) breaded shrimp and prawns (HTS subheading 1605.20.10.20); 2) shrimp and prawns generally classified in the *Pandalidae* family and commonly referred to as coldwater shrimp, in any state of processing; 3) fresh shrimp and prawns whether shell–on or peeled (HTS subheading 0306.23.00.20 and 0306.23.00.40); 4) shrimp and prawns in prepared meals (HTS subheading 1605.20.05.10); 5) dried shrimp and prawns; 6) canned warmwater shrimp and prawns (HTS subheading 1605.20.10.40); 7) certain dusted shrimp; and 8) certain battered shrimp. Dusted shrimp is a shrimp–based product: 1) that is produced from fresh (or thawed–from-frozen) and peeled shrimp; 2) to which a "dusting" layer of rice or wheat flour of at least 95 percent purity has been applied; 3) with the entire surface of the shrimp flesh thoroughly and evenly coated with the flour; 4) with the non–shrimp content of the end product constituting between four and 10 percent of the product's total weight after being dusted, but prior to being frozen; and 5) that is subjected to individually quick frozen ("IQF") freezing immediately after application of the dusting layer. Battered shrimp is a shrimp–based product that, when dusted in accordance with the definition of dusting above, is coated with a wet viscous layer containing egg and/or milk, and par–fried.

The products covered by this order are currently classifiable under the following HTS subheadings: 0306.13.00.03, 0306.13.00.06, 0306.13.00.09, 0306.13.00.12, 0306.13.00.15, 0306.13.00.18, 0306.13.00.21, 0306.13.00.24, 0306.13.00.27, 0306.13.00.40, 1605.20.10.10, and 1605.20.10.30. These HTS subheadings are provided for convenience and for customs purposes only and are not dispositive, but rather the written description of the scope of this order is dispositive.

**Continuation of Suspension of Liquidation**

In accordance with section 735(c)(1)(B) of the Act, we are directing CBP to continue to suspend liquidation of all entries of certain frozen warmwater shrimp from Thailand. CBP shall require a cash deposit equal to the estimated amount by which the normal value exceeds the U.S. price as indicated in the chart above. CBP shall discontinue the suspension of liquidation on canned shrimp products and refund any cash deposits made or bonds posted with respect to this merchandise. These instructions suspending liquidation will remain in effect until further notice. This amended determination and order is issued and published pursuant to section 735(d), 736(a) of the Act, and 19 CFR 351.211.

Dated: January 26, 2005.

**Joseph A. Spetrini,**

*Acting Assistant Secretary for Import Administration.*

[FR Doc. E5–369 Filed 1–31–05; 8:45 am]

BILLING CODE: 3510–DS–S

## DEPARTMENT OF COMMERCE

### International Trade Administration

(A–533–840)

### Notice of Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order: Certain Frozen Warmwater Shrimp from India[1]

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**EFFECTIVE DATE:** February 1, 2005.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Eastwood or Jill Pollack, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482–3874 or (202) 482–4593, respectively.

**SUPPLEMENTARY INFORMATION:**

#### Amendment to Final Determination

In accordance with sections 735(a) and 777(i)(1) of the Tariff Act of 1930, as amended, (the Act), on December 23, 2004, the Department published its notice of final determination of sales at less than fair value (LTFV) in the investigation of certain frozen and canned warmwater shrimp from India. *See Notice of Final Determination of Sales at Less Than Fair Value and Negative Final Determination of Critical Circumstances: Certain Frozen and Canned Warmwater Shrimp from India*, 69 FR 76916 (Dec. 23, 2004) (*Final Determination*). On December 23, 2004, we received an allegation, timely filed pursuant to 19 CFR 351.224(c)(2), from the petitioners (*i.e.*, the Ad Hoc Shrimp Trade Action Committee, Versaggi Shrimp Corporation, and Indian Ridge Shrimp Company) that the Department made a ministerial error with respect to its exclusion of "dusted" shrimp from the scope of this investigation. On December 28, 2004, Eastern Fish Company, Inc., and Long John Silver's, Inc., interested parties in this investigation, submitted a response to the petitioners' December 23, 2004, ministerial error allegation. In addition, on December 30, 2004, we received allegations, timely filed pursuant to 19 CFR 351.224(c)(2), from the petitioners and the respondents (*i.e.*, Devi Sea Foods Limited (Devi), and Hindustan Lever Limited (HLL)) that the Department also made ministerial errors in the final margin calculations. On January 6, 2004, we received submissions containing rebuttal comments from the petitioners and HLL.

After analyzing Devi's, HLL's, and the petitioners' submissions, we have determined, in accordance with 19 CFR 351.224(e), that we made the following ministerial errors in our calculations performed for the final determination:

- We inadvertently calculated packing expenses on a per–kilogram basis rather than a per–pound basis for Devi;
- We inadvertently failed to use the revised packaging costs submitted at verification in the calculation of Devi's total cost of production;
- We inadvertently subtracted HLL's marine insurance revenue from U.S. price, instead of treating it as an offset to movement expenses; and
- We inadvertently excluded direct labor costs from our calculation of HLL's variable manufacturing costs.

Correcting these errors results in revised margins for Devi and HLL. In addition, we have revised the calculation of the "all others" rate accordingly.

For a detailed discussion of all of the ministerial errors alleged by the petitioners and the respondents, as well as the Department's analysis, see the January 24, 2005, memorandum to Louis Apple from the team entitled, "Ministerial Error Allegations in the Final Determination of the Antidumping Duty Investigation on Certain Frozen Warmwater Shrimp from India."

Therefore, in accordance with 19 CFR 351.224(e), we are amending the final determination of sales at LTFV in the antidumping duty investigation of

[1] On January 21, 2005, the International Trade Commission (ITC) notified the Department of Commerce (the Department) of its final determination that two domestic like products exist for the merchandise covered by the Department's investigation: 1) certain non-canned warmwater shrimp and prawns; and 2) canned warmwater shrimp and prawns. The ITC determined that imports of canned warmwater shrimp and prawns from India were negligible; therefore, canned warmwater shrimp and prawns will not be covered by the antidumping duty order.

certain frozen warmwater shrimp from India. The revised weighted–average dumping margins are in the "Antidumping Duty Order" section, below.

**Antidumping Duty Order**

In accordance with section 735(a) of the Act, the Department made its final determination that certain frozen and canned warmwater shrimp from India is being, or is likely to be, sold in the United States at LTFV. *See Final Determination.* On January 21, 2005, the ITC notified the Department of its final determination pursuant to section 735(b)(1)(A)(I) of the Act that an industry in the United States is materially injured by reason of LTFV imports of subject merchandise from India. In its final determination, however, the ITC determined that two domestic like products exist for the merchandise covered by the Deparment's investigation: 1) certain non–canned warmwater shrimp and prawns; and 2) canned warmwater shrimp and prawns. The ITC determined pursuant to section 735(b)(1)(B) of the Act that imports of canned warmwater shrimp from India are negligible. Therefore, the ITC's affirmative determination of material injury covered all non–canned warmwater shrimp and prawns other than those specifically excluded in the "Scope of Order" section, below. Accordingly, the scope of the antidumping duty investigation has been amended as described above to reflect the ITC's distinction between certain non–canned warmwater shrimp and prawns and canned warmwater shrimp and prawns. Specifically, canned warmwater shrimp and prawns are excluded from the scope of the order.

In cases where the ITC specifically excludes a product in its final injury determination, the Department may exclude that product from its final margin calculation. *See Antidumping Duty Orders; Certain Stainless Steel Plate in Coils from Belgium, Canada, Italy, the Republic of Korea, South Africa, and Taiwan*, 64 FR 27756 (May 21, 1999). However, because the respondents did not export or sell canned warmwater shrimp and prawns to the United States during the period of investigation (POI), no recalculation of the dumping margins is warranted, and therefore we are not amending the final determination calculations to exclude any sales of canned warmwater shrimp and prawn products.

Therefore, in accordance with section 736(a)(1) of the Act, the Department will direct U.S. Customs and Border Protection (CBP) to assess, upon further instruction by the Department, antidumping duties equal to the amount by which the normal value of the merchandise exceeds the export price of the merchandise for all relevant entries of certain frozen warmwater shrimp from India. These antidumping duties will be assessed on all unliquidated entries of certain frozen warmwater shrimp from India entered, or withdrawn from warehouse, for consumption on or after August 4, 2004, the date on which the Department published its *Notice of Preliminary Determination of Sales at Less that Fair Value, Affirmative Preliminary Determination of Critical Circumstances and Postponement of Final Determination: Certain Frozen and Canned Warmwater Shrimp from India*, 69 FR 47111 (Aug. 4, 2004).

On or after the date of publication of this antidumping duty order in the **Federal Register**, CBP will require, at the same time that importers would normally deposit estimated duties on this merchandise, a cash deposit equal to the estimated weighted–average dumping margins as listed below. The "all others" rate applies to all exporters of subject merchandise not listed specifically. We determine that the following weighted–average percentages exist for the POI:

| Manufacturer/exporter | Original Final Margin | Amended Final Margin |
|---|---|---|
| Devi Sea Foods Ltd. | 5.02 | 4.94 |
| Hindustan Lever Ltd. | 13.42 | 15.36 |
| Nekkanti Seafoods Ltd. | 9.71 | 9.71 |
| All Others | 9.45 | 10.17 |

**Scope of Order**

The scope of this order includes certain warmwater shrimp and prawns, whether frozen, wild–caught (ocean harvested) or farm–raised (produced by aquaculture), head–on or head–off, shell–on or peeled, tail–on or tail–off,[2] deveined or not deveined, cooked or raw, or otherwise processed in frozen form.

The frozen warmwater shrimp and prawn products included in the scope of this order, regardless of definitions in the Harmonized Tariff Schedule of the United States (HTS), are products which are processed from warmwater shrimp and prawns through freezing and which are sold in any count size.

The products described above may be processed from any species of warmwater shrimp and prawns. Warmwater shrimp and prawns are generally classified in, but are not limited to, the *Penaeidae* family. Some examples of the farmed and wild–caught warmwater species include, but are not limited to, whiteleg shrimp (*Penaeus vannemei*), banana prawn (*Penaeus merguiensis*), fleshy prawn (*Penaeus chinensis*), giant river prawn (*Macrobrachium rosenbergii*), giant tiger prawn (*Penaeus monodon*), redspotted shrimp (*Penaeus brasiliensis*), southern brown shrimp (*Penaeus subtilis*), southern pink shrimp (*Penaeus notialis*), southern rough shrimp (*Trachypenaeus curvirostris*), southern white shrimp (*Penaeus schmitti*), blue shrimp (*Penaeus stylirostris*), western white shrimp (*Penaeus occidentalis*), and Indian white prawn (*Penaeus indicus*).

Frozen shrimp and prawns that are packed with marinade, spices or sauce are included in the scope of this order. In addition, food preparations, which are not "prepared meals," that contain more than 20 percent by weight of shrimp or prawn are also included in the scope of this order.

Excluded from the scope are: 1) breaded shrimp and prawns (HTS subheading 1605.20.10.20); 2) shrimp and prawns generally classified in the *Pandalidae* family and commonly referred to as coldwater shrimp, in any state of processing; 3) fresh shrimp and prawns whether shell–on or peeled (HTS subheadings 0306.23.00.20 and 0306.23.00.40); 4) shrimp and prawns in prepared meals (HTS subheading 1605.20.05.10); 5) dried shrimp and prawns; 6) canned warmwater shrimp and prawns (HTS subheading1605.20.10.40); 7) certain dusted shrimp; and 8) certain battered shrimp. Dusted shrimp is a shrimp–based product: 1) that is produced from fresh (or thawed–from-frozen) and peeled shrimp; 2) to which a "dusting" layer of rice or wheat flour of at least 95 percent purity has been applied; 3) with

[2] Tails"in this context means the tail fan, which includes the telson and the uropods.

the entire surface of the shrimp flesh thoroughly and evenly coated with the flour; 4) with the non–shrimp content of the end product constituting between four and 10 percent of the product's total weight after being dusted, but prior to being frozen; and 5) that is subjected to individually quick frozen (IQF) freezing immediately after application of the dusting layer. Battered shrimp is a shrimp–based product that, when dusted in accordance with the definition of dusting above, is coated with a wet viscous layer containing egg and/or milk, and par–fried.

The products covered by this order are currently classifiable under the following HTS subheadings: 0306.13.00.03, 0306.13.00.06, 0306.13.00.09, 0306.13.00.12, 0306.13.00.15, 0306.13.00.18, 0306.13.00.21, 0306.13.00.24, 0306.13.00.27, 0306.13.00.40, 1605.20.10.10, and 1605.20.10.30. These HTS subheadings are provided for convenience and for customs purposes only and are not dispositive, but rather the written description of the scope of this order is dispositive.

**Continuation of Suspension of Liquidation**

In accordance with section 735(c)(1)(B) of the Act, we are directing CBP to continue to suspend liquidation of all entries of certain frozen warmwater shrimp from India. CPB shall require a cash deposit equal to the estimated amount by which the normal value exceeds the U.S. price as indicated in the chart above. CBP shall discontinue the suspension of liquidation on canned shrimp products and refund any cash deposits made or bonds posted with respect to this merchandise. These instructions suspending liquidation will remain in effect until further notice. This amended determination and order is issued and published pursuant to section 735(d) and 736(a) of the Act, and 19 CFR 351.211.

Dated: January 26, 2005.

**Joseph A. Spetrini,**

*Acting Assistant Secretary for Import Administration.*

[FR Doc. E5–370 Filed 1–31–05; 8:45 am]

BILLING CODE: 3510–DS–S

## INTERNATIONAL TRADE COMMISSION

**[Investigations Nos. 751–TA–28–29]**

### Certain Frozen Warmwater Shrimp and Prawns From India and Thailand

**AGENCY:** United States International Trade Commission.

**ACTION:** Institution and scheduling of review investigations concerning the Commission's affirmative determinations in investigations Nos. 731–TA–1066–1067 (Final), Certain frozen warmwater shrimp and prawns from India and Thailand.

**SUMMARY:** The Commission hereby gives notice that it has instituted investigations pursuant to section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675(b)) (the Act) to review its determinations in investigations Nos. 731–TA–1066–1067 (Final). The purpose of the investigations is to determine whether revocation of the antidumping duty orders on certain frozen warmwater shrimp and prawns from India and Thailand is likely to lead to continuation or recurrence of material injury to an industry in the United States. Certain frozen warmwater shrimp and prawns from India and Thailand are provided for in subheadings 0306.13.00 and 1605.20.10 Harmonized Tariff Schedule of the United States.

For further information concerning the conduct of these investigations, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A, C, D, and E (19 CFR part 207).

**DATES:** Effective May 5, 2005.

**FOR FURTHER INFORMATION CONTACT:** Jim McClure (202–205–3191), Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its Internet server (*http://www.usitc.gov*). The public record for these investigations may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov*.

**SUPPLEMENTARY INFORMATION:**

*Background.*—On December 17, 2004, the Department of Commerce determined that imports of certain frozen and canned warmwater shrimp and prawns from India and Thailand are being sold in the United States at less than fair value (LTFV) within the meaning of section 731 of the Act (19 U.S.C. 1673) (69 FR 76916, 76918, December 23, 2004); and on January 6, 2005 the Commission determined, pursuant to section 735(b)(1) of the Act (19 U.S.C. 1673d(b)(1)), that an industry in the United States was materially injured by reason of imports of such LTFV merchandise. Accordingly, Commerce ordered that antidumping duties be imposed on such imports (70 FR 5143, February 1, 2005).

On January 6, 2005, when the Commission conducted its vote in these investigations, it stated that it was concerned about the possible impact of the December 26, 2004, tsunami on the shrimp industries of India and Thailand. The tsunami occurred prior to the closing of the record in these investigations on December 27, 2004. At the time the record closed, however, factual information as to any impact of the tsunami on the ability of producers in India or Thailand to produce and export shrimp was not available. On February 8, 2005, the Commission published a **Federal Register** notice (70 FR 6728) inviting comments from the public on whether changed circumstances exist sufficient to warrant the institution of changed circumstances reviews of the Commission's affirmative determinations concerning certain frozen warmwater shrimp and prawns from India and Thailand.

The Commission received 23 submissions in response to its **Federal Register** notice soliciting comments. Commenters that supported institution of changed circumstances reviews include Seafood Exporters Association of India, the Ministry of Commerce and Industry of India, the Department of Foreign Trade of the Royal Thai

Government, Sen. John Ensign, and Rep. William M. Thomas. Commenters that opposed institution of a changed circumstances review are the Ad Hoc Shrimp Action Committee, Versaggi Shrimp Corp., and Indian Ridge Shrimp Co., who were petitioners in the original investigations, Sen. Trent Lott, Sen. Mary Landrieu, Sen. Jeff Sessions, Sen. Richard Shelby, Sen. David Vitter, Rep. Walter B. Jones, Rep. Charlie Melancon, the governors of Florida, Georgia, Louisiana, Mississippi, South Carolina, and Texas, and Joseph Francis, a commercial fisherman from Ruston, Washington. The Alabama House of Representatives submitted a resolution it passed opposing institution of a review. The U.S. Department of State submitted a factual report on the impact of the tsunami on the Thai shrimp industry.

On April 25, 2005, after reviewing the comments it received in response to that request, the Commission determined that it had received information which showed changed circumstances sufficient to warrant instituting review investigations and that there was good cause for instituting such review investigations within two years after publication of the orders.

The Commission has further determined, pursuant to section 201.4(b) of the Commission rules, that there is good and sufficient reason in these proceedings to waive the provisions of section 207.45(c) of the Commission rules stating that changed circumstances review investigations be completed within 120 days of publication of the notice of institution and, instead, has set a deadline for completion of these reviews of October 31, 2005.

*Participation in the investigations and public service list.*—Persons, including industrial users of the subject merchandise and, if the merchandise is sold at the retail level, representative consumer organizations, wishing to participate in the investigations as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, no later than 21 days prior to the hearing date specified in this notice. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations.

*Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.*—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in these investigations available to authorized applicants under the APO issued in the investigations, provided that the application is made no later than 21 days prior to the hearing date specified in this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. 1677(9), who are parties to the investigations. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

*Staff report.*—The prehearing staff report in these investigations will be placed in the nonpublic record on August 31, 2005, and a public version will be issued thereafter, pursuant to section 207.22 of the Commission's rules.

*Hearing.*—The Commission will hold a hearing in connection with these investigations beginning at 9:30 a.m. on September 14, 2005, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before September 8, 2005. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on September 12, 2005, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), and 207.24 of the Commission's rules. Parties must submit any request to present a portion of their hearing testimony *in camera* no later than 7 days prior to the date of the hearing.

*Written submissions.*—Each party who is an interested party shall submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.23 of the Commission's rules; the deadline for filing is September 7, 2005. Parties may also file written testimony in connection with their presentation at the hearing, as provided in section 207.24 of the Commission's rules, and posthearing briefs, which must conform with the provisions of section 207.25 of the Commission's rules. The deadline for filing posthearing briefs is September 21, 2005; witness testimony must be filed no later than three days before the hearing. In addition, any person who has not entered an appearance as a party to the investigations may submit a written statement of information pertinent to the subject of the investigations on or before September 21, 2005. On October 11, 2005, the Commission will make available to parties all information on which they have not had an opportunity to comment. Parties may submit final comments on this information on or before October 14, 2005, but such final comments must not contain new factual information and must otherwise comply with section 207.30 of the Commission's rules. All written submissions must conform with the provisions of section 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002).

Additional written submissions to the Commission, including requests pursuant to section 201.12 of the Commission's rules, shall not be accepted unless good cause is shown for accepting such submissions, or unless the submission is pursuant to a specific request by a Commissioner or Commission staff.

In accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the investigations must be served on all other parties to the investigations (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

**Authority:** These investigations are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.45 of the Commission's rules.

By order of the Commission.

Issued: April 29, 2005.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. 05–8970 Filed 5–4–05; 8:45 am]

BILLING CODE 7020–02–P

## INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 751–TA–28–29]

### Certain Frozen Warmwater Shrimp and Prawns From India and Thailand

**AGENCY:** United States International Trade Commission.

**ACTION:** Revised schedule for the subject investigations.

**EFFECTIVE DATE:** September 16, 2005.

**FOR FURTHER INFORMATION CONTACT:** Jim McClure (202–205–3191), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its Internet server (*http://www.usitc.gov*). The public record for these investigations may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov*.

**SUPPLEMENTARY INFORMATION:** On May 5, 2005, the Commission published notice (70 FR 23884) of its institution of and schedule for investigations to be conducted pursuant to section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675(b)) (the Act) to review its determinations in investigation Nos. 731–TA–1066–1067 (Final). In that notice, the Commission found good cause existed to waive rule 207.45(c), concerning the time for completion of changed circumstances review investigations, and established a completion deadline of October 31, 2005. The Commission has now found that good cause exists to extend further the completion date for these review investigations, and has set a deadline for completion of these reviews of November 21, 2005.

The Commission's new schedule for the investigations is as follows: The deadline for filing posthearing briefs is October 5, 2005; the Commission will make its final release of information on October 25, 2005; and final party comments are due on October 28, 2005.

For further information concerning these investigations see the Commission's notice cited above and the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and C (19 CFR part 207).

**Authority:** These investigations are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.21 of the Commission's rules.

By order of the Commission.

Issued: September 16, 2005.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. 05–18989 Filed 9–22–05; 8:45 am]

BILLING CODE 7020–02–P

# APPENDIX B

# HEARING WITNESSES

## CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

| | |
|---|---|
| Subject: | Certain Frozen Warmwater Shrimp and Prawns from India and Thailand |
| Inv. Nos.: | 751-TA-28-29 |
| Date and Time: | September 14, 2005 - 9:30 a.m. |

Sessions were held in connection with these investigations in the Main Hearing Room (room 101), 500 E Street, S.W., Washington, D.C.

Foreign Government Appearances:

V. Sampath, Director, Department of Ocean Development, Government of India
Yugraj Singh Yadava, Member Secretary, Aquaculture Authority of India, Government of India
Nuntawan Sakuntanaga, Deputy Director General, Department of Foreign Trade,
Ministry of Commerce, Royal Thai Government

In Support of the Continuation of Antidumping Duty Orders:

Dewey Ballantine LLP
Washington, D.C.
on behalf of

The Ad Hoc Shrimp Trade Committee
Versaggi Shrimp Corporation
India River Shrimp Company
Domestic Producers and Interested Parties

Wilma Anderson, Executive Director, Texas Shrimpers Association
Jonathan Appelbaum, President, Penguin Frozen Foods
Lance Authement, Owner, Hi Seas of Dulac, Inc.
Richard Gollott, Secretary/Treasurer, Golden Gulf Coast Packing Company, Inc.
Joey Rodriguez, President, Southern Shrimp Alliance
John Williams, Owner, Gulf Partners Ltd.
William A. Noellert, Economist, Dewey Ballantine LLP
Arturo Ramos, Economist, Dewey Ballantine LLP

Bradford L. Ward )
Kevin M. Dempsey ) – OF COUNSEL
Nathaniel M. Rickard )

In Opposition to the Continuation of Antidumping Duty Orders:

Willkie Farr & Gallagher LLP
Washington, D.C.
on behalf of

The Seafood Exporters Association of India
The Government of India
Thai Frozen Foods Association

P.K. Ramachandran, President, The Waterbase Limited
Bruce Beagle, Vice President, Amende & Schultz, Inc.
Mangalagiri Sudarsan Swamy, Managing Director,
All India Shrimp Hatcheries Association; *and*
President, Santir Aquatic Private Ltd.
A.J. Tharakan, President, Seafood Exporters Association of India
Somsak Paneetatyasai, President, Thai Shrimp Association
Sujint Thammasart, Consultant, Thai Shrimp Association;
*and* Executive Vice President, Aquaculture Research & Development,
Charoen Pokphand Foods (CPF) Public Company Ltd.
Panisuan Jamnarnwej, Immediate Past President, Thai Frozen Foods Association
Eric Bloom, President, Eastern Fish Company
G. Mohan Kumar, Chairman, The Marine Products Export Development
Authority, Ministry of Commerce & Industry, Government of India
V. Sampath, Director, Department of Ocean Development, Government of India
Yugraj Singh Yadava, Member Secretary, Aquaculture Authority of India,
Government of India
Nuntawan Sakuntanaga, Deputy Director General, Department of Foreign Trade,
Ministry of Commerce, Royal Thai Government

Kenneth J. Pierce )
Matthew R. Nicely ) – OF COUNSEL
Joseph A. Laroski )
Robert E. DeFrancesco )

# APPENDIX C

# SUMMARY DATA

Table C-1
Warmwater shrimp and prawns: Summary data concerning the U.S. market, 2001-04, January-June 2004, and January-June 2005

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

| Item | Reported data | | | | | | Period changes | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | January-June | | | | | | Jan.-June |
| | 2001 | 2002 | 2003 | 2004 | 2004 | 2005 | 2001-04 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
| U.S. consumption quantity: | | | | | | | | | | | |
| Amount | 1,005,472 | 1,045,843 | 1,212,322 | 1,215,008 | 518,001 | 442,035 | 20.8 | 4.0 | 15.9 | 0.2 | -14.7 |
| Processors' share (1) | 15.6 | 13.5 | 12.4 | 11.7 | 8.7 | 8.7 | -4.0 | -2.1 | -1.1 | -0.7 | 0.0 |
| Importers' share (1): | | | | | | | | | | | |
| India | 7.1 | 9.2 | 8.2 | 7.4 | 7.8 | 6.8 | 0.2 | 2.1 | -1.1 | -0.8 | -1.3 |
| Thailand | 29.3 | 23.5 | 23.0 | 22.9 | 24.9 | 27.3 | -6.4 | -5.8 | -0.5 | -0.1 | 2.4 |
| Brazil/China/Ecuador/Vietnam | 20.9 | 29.1 | 34.2 | 25.0 | 31.0 | 22.5 | 4.1 | 8.2 | 5.1 | -9.2 | -8.5 |
| Other sources | 27.1 | 24.7 | 22.3 | 33.1 | 27.6 | 34.9 | 6.0 | -2.4 | -2.4 | 10.8 | 7.3 |
| Total imports | 84.4 | 86.5 | 87.6 | 88.3 | 91.3 | 91.3 | 4.0 | 2.1 | 1.1 | 0.7 | 0.0 |
| U.S. consumption value: | | | | | | | | | | | |
| Amount | 4,538,770 | 4,078,398 | 4,438,061 | 4,197,574 | 1,698,885 | 1,474,890 | -7.5 | -10.1 | 8.8 | -5.4 | -13.1 |
| Processors' share (1) | 20.4 | 16.6 | 15.8 | 13.6 | 12.2 | 10.8 | -6.8 | -3.7 | -0.9 | -2.2 | -1.4 |
| Importers' share (1): | | | | | | | | | | | |
| India | 5.9 | 9.0 | 9.3 | 8.7 | 9.2 | 8.2 | 2.8 | 3.1 | 0.3 | -0.6 | -0.9 |
| Thailand | 28.3 | 24.1 | 22.3 | 20.8 | 22.1 | 24.1 | -7.5 | -4.2 | -1.8 | -1.5 | 2.1 |
| Brazil/China/Ecuador/Vietnam | 19.0 | 26.4 | 30.6 | 22.7 | 29.9 | 22.5 | 3.7 | 7.3 | 4.2 | -7.8 | -7.4 |
| Other sources | 26.4 | 23.9 | 22.0 | 34.2 | 26.7 | 34.4 | 7.8 | -2.5 | -1.9 | 12.2 | 7.7 |
| Total imports | 79.6 | 83.4 | 84.2 | 86.4 | 87.8 | 89.2 | 6.8 | 3.7 | 0.9 | 2.2 | 1.4 |
| U.S. imports from: | | | | | | | | | | | |
| India: | | | | | | | | | | | |
| Quantity | 71,794 | 96,854 | 99,140 | 89,364 | 40,486 | 29,015 | 24.5 | 34.8 | 2.8 | -9.9 | -28.3 |
| Value | 266,916 | 387,436 | 412,027 | 364,678 | 155,433 | 121,442 | 36.6 | 37.7 | 12.1 | -11.5 | -21.9 |
| Unit value | $3.72 | $3.80 | $4.16 | $4.08 | $3.84 | $4.19 | 9.8 | 2.3 | 9.3 | -1.8 | 9.0 |
| Ending inventory quantity | 7,312 | 6,399 | 12,471 | 8,089 | 5,834 | 5,782 | 10.4 | -12.5 | 94.9 | -35.3 | 2.6 |
| Thailand: | | | | | | | | | | | |
| Quantity | 294,275 | 245,486 | 278,832 | 278,279 | 128,998 | 120,880 | -5.4 | -16.6 | 13.5 | -0.1 | -6.4 |
| Value | 1,283,687 | 983,831 | 991,425 | 872,611 | 374,542 | 358,858 | -32.0 | -23.4 | 0.8 | -12.0 | -5.0 |
| Unit value | $4.36 | $4.01 | $3.56 | $3.14 | $2.90 | $2.96 | -28.1 | -8.1 | -11.2 | -11.8 | 1.8 |
| Ending inventory quantity | 38,864 | 46,179 | 55,338 | 50,497 | 43,291 | 42,048 | 27.3 | 16.4 | 19.8 | -8.7 | -2.9 |
| Subtotal: | | | | | | | | | | | |
| Quantity | 366,070 | 342,139 | 377,772 | 367,643 | 169,483 | 149,895 | 0.4 | -8.5 | 10.4 | -2.7 | -11.7 |
| Value | 1,550,603 | 1,351,267 | 1,403,452 | 1,237,288 | 529,975 | 477,400 | -20.2 | -12.9 | 3.9 | -11.8 | -9.9 |
| Unit value | $4.24 | $3.95 | $3.72 | $3.37 | $3.13 | $3.19 | -20.5 | -6.8 | -5.9 | -9.4 | 2.0 |
| Ending inventory quantity | 46,176 | 52,578 | 67,809 | 58,586 | 48,925 | 47,826 | 24.7 | 11.9 | 29.0 | -13.6 | -2.2 |
| Brazil/China/Ecuador/Vietnam: | | | | | | | | | | | |
| Quantity | 209,763 | 304,285 | 414,347 | 303,423 | 160,462 | 99,436 | 44.7 | 45.1 | 36.2 | -26.8 | -38.0 |
| Value | 864,636 | 1,074,951 | 1,357,487 | 954,865 | 508,541 | 331,608 | 10.4 | 24.3 | 26.3 | -29.7 | -34.8 |
| Unit value | $4.12 | $3.53 | $3.28 | $3.15 | $3.16 | $3.33 | -23.7 | -14.3 | -7.3 | -4.0 | 5.6 |
| Ending inventory quantity | 18,505 | 27,503 | 43,443 | 28,214 | 38,898 | 17,032 | 70.9 | 68.6 | 58.0 | -35.1 | -53.6 |
| All other sources: | | | | | | | | | | | |
| Quantity | 272,609 | 258,030 | 270,163 | 402,315 | 142,797 | 154,275 | 47.6 | -5.3 | 4.7 | 48.9 | 8.0 |
| Value | 1,198,624 | 973,512 | 978,375 | 1,436,261 | 453,533 | 507,128 | 19.8 | -18.8 | 0.3 | 47.1 | 11.8 |
| Unit value | $4.40 | $3.77 | $3.61 | $3.57 | $3.18 | $3.29 | -18.8 | -14.2 | -4.2 | -1.2 | 3.5 |
| Ending inventory quantity | 17,141 | 19,212 | 20,550 | 30,907 | 16,436 | 29,290 | 76.0 | 12.1 | 7.0 | 48.5 | 78.2 |
| All sources: | | | | | | | | | | | |
| Quantity | 848,442 | 904,454 | 1,062,282 | 1,073,381 | 472,742 | 403,606 | 26.5 | 6.6 | 17.5 | 1.0 | -14.7 |
| Value | 3,613,863 | 3,399,731 | 3,737,315 | 3,628,235 | 1,490,049 | 1,316,134 | 0.4 | -5.9 | 9.9 | -2.9 | -11.7 |
| Unit value | $4.26 | $3.76 | $3.52 | $3.38 | $3.15 | $3.26 | -20.6 | -11.8 | -6.4 | -3.9 | 3.5 |
| Ending inventory quantity | 80,621 | 99,293 | 131,602 | 117,287 | 102,056 | 94,150 | 45.5 | 23.2 | 32.7 | -11.0 | -7.7 |
| U.S. processors': | | | | | | | | | | | |
| Average capacity quantity | 296,445 | 298,350 | 302,817 | 310,290 | 155,065 | 156,187 | 4.6 | -0.6 | 1.4 | 2.5 | 0.7 |
| Production quantity | 143,670 | 142,756 | 142,907 | 156,241 | 60,460 | 55,831 | 8.1 | -0.6 | 0.1 | 8.8 | -7.7 |
| Capacity utilization (1) | 48.1 | 47.8 | 47.2 | 50.0 | 38.0 | 35.7 | 1.9 | -0.3 | -0.6 | 2.8 | -3.2 |
| U.S. shipments: | | | | | | | | | | | |
| Quantity | 136,968 | 136,026 | 139,028 | 160,225 | 66,323 | 70,033 | 17.0 | -0.7 | 2.2 | 15.2 | 2.5 |
| Value | 613,065 | 548,889 | 531,015 | 539,847 | 234,585 | 254,283 | -12.0 | -10.5 | -3.3 | 1.6 | 8.4 |
| Unit value | $4.48 | $4.04 | $3.82 | $3.37 | $3.43 | $3.63 | -24.8 | -9.8 | -5.3 | -11.8 | 5.8 |
| Export shipments: | | | | | | | | | | | |
| Quantity | 2,772 | 2,547 | 3,268 | 3,017 | 1,268 | 955 | 8.8 | -8.1 | 28.2 | -7.6 | -24.7 |
| Value | 9,141 | 7,763 | 8,499 | 8,004 | 3,308 | 2,751 | -12.4 | -15.1 | 9.5 | -5.8 | -16.8 |
| Unit value | $3.30 | $3.05 | $2.60 | $2.65 | $2.61 | $2.88 | -19.5 | -7.6 | -14.6 | 1.9 | 10.4 |
| Ending inventory quantity | 26,123 | 27,544 | 32,724 | 32,709 | 31,014 | 26,862 | 25.2 | 5.4 | 18.8 | -0.0 | -17.3 |
| Inventories/total shipments (1) | 18.7 | 19.9 | 23.0 | 20.0 | 22.3 | 18.1 | 1.3 | 1.2 | 3.1 | -3.0 | -4.2 |
| Production workers | 1,851 | 1,882 | 1,656 | 1,661 | 1,531 | 1,452 | -10.3 | -8.6 | -8.0 | 6.7 | -5.2 |
| Hours worked (1,000s) | 3,280 | 3,220 | 3,082 | 3,142 | 1,405 | 1,359 | -4.2 | -1.8 | -4.0 | 1.8 | -3.2 |
| Wages paid ($1,000s) | 30,721 | 30,346 | 30,642 | 30,507 | 13,344 | 12,773 | -0.7 | -1.2 | 1.0 | -0.4 | -4.3 |
| Hourly wages | $9.33 | $9.38 | $9.87 | $9.68 | $9.47 | $9.38 | 3.8 | 0.8 | 5.2 | -2.0 | -1.1 |
| Productivity (pounds per hour) | 43.0 | 43.8 | 45.8 | 48.9 | 42.7 | 40.7 | 13.8 | 1.5 | 5.0 | 6.8 | -4.8 |
| Unit labor costs | $0.22 | $0.22 | $0.22 | $0.20 | $0.22 | $0.23 | -5.9 | -0.9 | 0.1 | -8.2 | 3.8 |
| Net sales: | | | | | | | | | | | |
| Quantity | 138,837 | 140,068 | 144,348 | 160,425 | 65,330 | 65,396 | 15.5 | 0.9 | 3.1 | 11.1 | 0.1 |
| Value | 531,972 | 570,415 | 670,100 | 553,213 | 237,680 | 247,581 | -12.5 | -9.7 | -0.1 | -3.0 | 4.2 |
| Unit value | $4.55 | $4.07 | $3.96 | $3.45 | $3.64 | $3.79 | -24.2 | -10.5 | -3.0 | -12.7 | 4.1 |
| Cost of goods sold (COGS) | 556,954 | 513,536 | 509,906 | 488,167 | 205,331 | 218,728 | -14.2 | -9.7 | -0.7 | -4.3 | 5.8 |
| Gross profit or (loss) | 83,018 | 56,779 | 80,194 | 65,026 | 32,349 | 30,853 | 3.2 | -9.9 | 6.0 | 6.0 | -4.6 |
| SG&A expenses | 53,196 | 52,557 | 54,298 | 51,948 | 23,982 | 23,797 | -2.3 | -1.2 | 3.3 | -4.3 | -0.7 |
| Operating income or (loss) | 9,822 | 4,222 | 5,896 | 13,078 | 8,367 | 7,056 | 33.2 | -57.0 | 39.8 | 121.8 | -15.9 |
| Capital expenditures | 5,820 | 7,301 | 8,426 | 5,486 | 3,169 | 2,889 | -6.1 | 25.4 | 15.4 | -35.1 | -9.4 |
| Unit COGS | $4.10 | $3.67 | $3.53 | $3.04 | $3.14 | $3.31 | -25.7 | -10.5 | -3.7 | -13.9 | 5.4 |
| Unit SG&A expenses | $0.38 | $0.38 | $0.38 | $0.32 | $0.37 | $0.36 | -15.5 | -2.1 | 0.3 | -13.9 | -0.8 |
| Unit operating income or (loss) | $0.07 | $0.03 | $0.04 | $0.08 | $0.13 | $0.11 | 15.2 | -57.4 | 35.5 | 99.6 | -16.0 |
| COGS/sales (1) | 90.0 | 90.0 | 89.4 | 88.2 | 88.4 | 87.5 | -1.8 | 0.0 | -0.6 | -1.2 | 1.1 |
| Operating income or (loss)/sales (1) | 1.8 | 0.7 | 1.0 | 2.4 | 3.5 | 2.8 | 0.6 | -0.8 | 0.3 | 1.3 | -0.7 |
| Calculated U.S. shipments: | | | | | | | | | | | |
| Quantity | 157,030 | 141,389 | 150,040 | 141,627 | 45,259 | 38,627 | -9.8 | -10.0 | 6.1 | -5.8 | -14.7 |
| Value | 924,907 | 678,667 | 700,687 | 569,340 | 208,835 | 158,756 | -38.4 | -26.6 | 3.2 | -18.7 | -23.2 |
| Unit value | $5.89 | $4.80 | $4.67 | $4.02 | $4.57 | $4.11 | -31.7 | -18.5 | -2.7 | -13.9 | -10.1 |

(1) "Reported data" are in percent and "period changes" are in percentage points.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

Source: Compiled from data submitted in response to Commission questionnaires, National Marine Fisheries Services statistics, and official Commerce statistics.

**Table C-2**
**Warmwater shrimp and prawns: U.S. imports, by source and by month, January 2001- August 2005**

| COUNTRY | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quantity (1,000 pounds) | | | | | | | | | | | | |
| 2001: | | | | | | | | | | | | | |
| India | 6,374 | 4,273 | 4,417 | 3,239 | 4,234 | 4,970 | 6,027 | 8,127 | 6,753 | 8,374 | 7,261 | 7,747 | 71,794 |
| Thailand | 24,827 | 16,851 | 15,019 | 14,391 | 16,401 | 22,864 | 24,311 | 30,964 | 28,937 | 36,123 | 37,212 | 26,374 | 294,275 |
| B/C/E/V | 11,097 | 8,014 | 11,613 | 13,714 | 17,248 | 19,160 | 18,510 | 23,449 | 22,405 | 26,061 | 21,642 | 16,850 | 209,763 |
| All other | 18,559 | 13,989 | 12,687 | 11,701 | 15,949 | 20,901 | 22,753 | 27,168 | 25,094 | 43,142 | 34,221 | 26,444 | 272,609 |
| Total | 60,858 | 43,128 | 43,736 | 43,046 | 53,833 | 67,895 | 71,602 | 89,708 | 83,189 | 113,699 | 100,335 | 77,414 | 848,442 |
| 2002: | | | | | | | | | | | | | |
| India | 8,725 | 7,512 | 6,651 | 5,568 | 5,733 | 7,517 | 12,490 | 12,851 | 9,006 | 7,141 | 5,802 | 7,657 | 96,654 |
| Thailand | 21,376 | 14,952 | 15,122 | 15,196 | 13,389 | 21,466 | 19,190 | 19,784 | 23,870 | 23,918 | 31,903 | 25,320 | 245,485 |
| B/C/E/V | 15,662 | 14,074 | 15,128 | 19,727 | 21,884 | 25,135 | 29,838 | 34,265 | 29,392 | 29,103 | 37,225 | 32,851 | 304,285 |
| All other | 20,259 | 17,108 | 14,365 | 11,439 | 15,951 | 22,148 | 23,799 | 24,846 | 22,544 | 32,532 | 27,064 | 25,975 | 258,030 |
| Total | 66,022 | 53,646 | 51,266 | 51,930 | 56,958 | 76,268 | 85,318 | 91,746 | 84,812 | 92,694 | 101,994 | 91,803 | 904,454 |
| 2003: | | | | | | | | | | | | | |
| India | 9,641 | 7,857 | 7,057 | 6,386 | 5,039 | 5,831 | 8,225 | 10,838 | 12,048 | 9,973 | 7,732 | 8,513 | 99,140 |
| Thailand | 13,581 | 15,573 | 17,800 | 19,850 | 16,231 | 19,702 | 20,795 | 25,123 | 30,231 | 36,511 | 36,266 | 26,970 | 278,632 |
| B/C/E/V | 28,857 | 23,091 | 20,170 | 23,055 | 27,218 | 33,198 | 44,910 | 45,963 | 45,218 | 46,033 | 40,290 | 36,344 | 414,347 |
| All other | 20,187 | 18,042 | 16,607 | 15,611 | 16,910 | 20,166 | 28,103 | 27,441 | 25,650 | 32,694 | 25,819 | 22,934 | 270,163 |
| Total | 72,265 | 64,563 | 61,634 | 64,902 | 65,398 | 78,897 | 102,034 | 109,364 | 113,146 | 125,211 | 110,107 | 94,761 | 1,062,282 |
| 2004: | | | | | | | | | | | | | |
| India | 10,000 | 14,734 | 8,653 | 1,964 | 2,099 | 3,036 | 8,754 | 10,020 | 6,357 | 6,926 | 8,049 | 8,772 | 89,364 |
| Thailand | 23,678 | 48,701 | 32,065 | 9,498 | 6,629 | 8,426 | 17,813 | 11,005 | 16,773 | 26,403 | 39,377 | 37,911 | 278,279 |
| B/C/E/V | 36,604 | 44,940 | 31,582 | 18,816 | 12,901 | 15,619 | 17,077 | 15,425 | 22,818 | 28,449 | 35,951 | 23,242 | 303,423 |
| All other | 21,480 | 21,222 | 21,323 | 25,782 | 25,171 | 27,819 | 36,512 | 37,634 | 43,454 | 49,083 | 52,173 | 40,662 | 402,315 |
| Total | 91,762 | 129,597 | 93,622 | 56,060 | 46,800 | 54,900 | 80,157 | 74,083 | 89,402 | 110,861 | 135,550 | 110,587 | 1,073,381 |
| 2005: | | | | | | | | | | | | | |
| India | 6,030 | 4,533 | 6,899 | 5,153 | 2,629 | 3,772 | 6,047 | 12,611 | | | | | 47,673 |
| Thailand | 27,632 | 20,354 | 18,045 | 15,761 | 15,635 | 23,254 | 31,309 | 44,036 | | | | | 196,024 |
| B/C/E/V | 21,568 | 18,360 | 16,534 | 13,284 | 13,743 | 15,948 | 18,801 | 20,581 | | | | | 138,821 |
| All other | 29,393 | 24,348 | 28,021 | 24,054 | 21,832 | 26,627 | 28,171 | 33,435 | | | | | 215,881 |
| Total | 84,623 | 67,595 | 69,499 | 58,251 | 53,839 | 69,601 | 84,328 | 110,663 | | | | | 598,399 |

Note: Imports from Canada, Chile, Denmark, Greenland, and Iceland excluded; B/C/E/V = Brazil, China, Ecuador, and Vietnam.

Source: USDOC (HTS 0306.13.0003, 0306.13.0006, 0306.13.0009, 0306.13.0012, 0306.13.0015, 0306.13.0018, 0306.13.0021, 0306.13.0024, 0306.13.0027, 0306.13.0040, 1605.20.1010, and 1605.20.1030).

# APPENDIX D

# U.S. FISHERMEN DATA

## OPERATIONS OF SHRIMP FISHERMEN

The Commission received questionnaires with usable financial data from 130 shrimp fishermen. Out of 130 firms, 22 firms operated as proprietorships, 6 as partnerships, and 102 as corporations. One hundred twenty two firms reported data on a cash or tax accounting basis, and 8 firms reported data on the basis of GAAP. Most of the reporting firms' fiscal years ended on December 31. While most firms reported data for all six periods, fifteen firms reported data only for the four full years, and four firms reported data only for the two interim periods. Two firms started in 2002 while one firm in 2003 and two firms in 2004 ceased operation. Seven firms reported no sales in interim 2004 and five firms reported no sales in interim 2005 but reported some fixed expenses. Hence, the number of firms reporting data shown in table D-1 are different in each period.

There are minimal differences between the data in this report and the data in the *Final Shrimp Report*. As noted above, 130 shrimp fishermen provided useable financial for this report, as opposed to 124 in the *Final Shrimp Report*. As a result, net sales values in this report account for approximately 103 to 108 percent of the values in the *Final Shrimp Report* for fiscal years 2001, 2002, 2003, and January to June 2004, respectively. Moreover, the net income margins (operating income as a percentage of net sales values) in this report were quite consistent with those in the *Final Shrimp Report*, both on an absolute and trend basis.

Corporations pay salaries to their officers and partnerships pay salaries to their partners, but no salaries are paid to proprietors. Hence, to present data for the different kinds of firms on a similar basis, net income or (loss) data are presented before salaries are paid to corporation officers and partners.

Usable income-and-loss data of 130 shrimp fishermen on their warmwater shrimp operations are presented in table D-1. The net income margin before corporation officers' or partners' salaries declined from a positive 1.2 percent of total net sales in 2001 to a negative 10.8 percent in 2002 and then slightly improved to a still negative 6.1 percent in 2003 and a negative 5.0 percent in 2004. The net loss margin before corporation officers' or partners' salaries decreased from a negative 29.4 percent in January-June 2004 to a negative 20.5 percent in January-June 2005. Net income or loss margins before income taxes showed a similar trend as net income or loss before corporation officers' or partners' salaries during the period of investigation.

From 2001 to 2002, the volume of total net sales increased by about 3 percent whereas the value of total net sales dropped by about 17 percent; on a per-pound basis, the average total operating expenses declined by $0.38 whereas the average unit value of total net sales dropped by $0.77, resulting in a net loss of $0.34 before corporation officers' or partners' salaries. The major decline was in labor (crew shares) of $0.26 due to the decline in the value of total net sales (crew shares are normally based on a percentage of net sales). Other noticeable declines were in fishing gear of $0.04 and in vessel repair and maintenance of $0.08. Fuel and oil, and depreciation slightly increased whereas insurance and all other expenses remained the same.

From 2002 to 2003, the total net sales quantity rose by about 13 percent whereas the value of total net sales increased by only about 4 percent; on a per-pound basis, the average total operating expenses declined by $0.42 whereas the average unit value of total net sales dropped by $0.25, resulting in a reduction in unit net loss of $0.17. However, the unit net loss was still $0.17 before corporation officers' or partners' salaries. The expense item with the largest per unit decline was fuel and oil, with a decline of $0.11. Labor (crew shares) declined by $0.06 even though the value of total net sales increased slightly. Other noticeable declines were in fishing gear ($0.09), vessel repair and maintenance ($0.03), and depreciation ($0.05). The remaining items of operating expenses declined except taxes and licenses, remained the same, and all other expenses, which increased by $0.01.

**Table D-1**
**Result of operations of shrimp fishermen in the harvesting of warmwater shrimp, fiscal years 2001-04, January-June 2004, and January-June 2005**

| Item | Fiscal years | | | | January-June | |
|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2003 | 2004 | 2004 | 2005 |
| | Quantity (*pounds*) | | | | | |
| Sold to processors/docks | 13,559,161 | 13,980,937 | 15,810,173 | 15,233,289 | 4,340,906 | 4,279,815 |
| Transferred to related processors/docks | 63,101 | 99,995 | 56,319 | 62,866 | 22,604 | 43,450 |
| Other sales | 419,068 | 418,971 | 494,792 | 486,777 | 60,758 | 136,839 |
| Total net sales | 14,041,330 | 14,499,903 | 16,361,284 | 15,782,932 | 4,424,268 | 4,460,104 |
| | Value (*dollars*) | | | | | |
| Sold to processors/docks | 52,952,934 | 43,979,771 | 45,745,136 | 46,234,457 | 11,292,749 | 12,499,259 |
| Transferred to related processors/docks | 235,303 | 263,585 | 152,875 | 131,729 | 49,941 | 62,442 |
| Other sales | 1,966,223 | 1,559,245 | 1,719,658 | 1,936,915 | 240,291 | 590,206 |
| Total net sales | 55,154,460 | 45,802,601 | 47,617,669 | 48,303,101 | 11,582,981 | 13,151,907 |
| Operating expenses: | | | | | | |
| Labor | 15,377,849 | 12,155,251 | 12,765,918 | 12,550,453 | 2,784,676 | 3,232,092 |
| Fuel and oil | 12,647,641 | 13,694,573 | 13,502,446 | 16,346,475 | 4,330,309 | 5,353,279 |
| Groceries, & ice | 1,962,306 | 1,889,083 | 1,742,264 | 1,807,960 | 634,669 | 648,708 |
| Fishing gear | 4,397,807 | 3,885,278 | 2,999,842 | 3,022,849 | 992,946 | 902,306 |
| Taxes & licenses | 670,047 | 408,551 | 490,975 | 466,833 | 116,269 | 149,643 |
| Insurance | 2,710,072 | 2,700,740 | 2,609,382 | 2,619,831 | 1,046,418 | 971,859 |
| Vessel repairs and maintenance | 5,927,785 | 4,890,277 | 5,098,500 | 4,297,701 | 2,028,238 | 1,777,809 |
| Interest | 2,706,162 | 2,341,802 | 2,156,213 | 1,844,216 | 616,377 | 529,987 |
| Depreciation | 4,996,110 | 5,576,721 | 5,436,985 | 4,568,742 | 1,396,171 | 1,147,764 |
| All other expenses | 3,105,140 | 3,190,794 | 3,724,790 | 3,202,578 | 1,047,597 | 1,135,649 |
| Total operating expenses | 54,500,919 | 50,733,070 | 50,527,315 | 50,727,638 | 14,993,670 | 15,849,096 |
| Net income or (loss) before salaries | 653,541 | (4,930,469) | (2,909,646) | (2,424,537) | (3,410,689) | (2,697,189) |
| Corporation officers' & partners' salaries | 655,716 | 533,814 | 648,795 | 678,689 | 304,523 | 273,193 |
| Net income or (loss) before income taxes | (2,175) | (5,464,283) | (3,558,441) | (3,103,226) | (3,715,212) | (2,970,382) |
| | Ratio to net sales (*percent*) | | | | | |
| Labor | 27.9 | 26.5 | 26.8 | 26.0 | 24.0 | 24.6 |
| Fuel and oil | 22.9 | 29.9 | 28.4 | 33.8 | 37.4 | 40.7 |
| Groceries, & ice | 3.6 | 4.1 | 3.7 | 3.7 | 5.5 | 4.9 |
| Fishing gear | 8.0 | 8.5 | 6.3 | 6.3 | 8.6 | 6.9 |
| Taxes & licenses | 1.2 | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 |
| Insurance | 4.9 | 5.9 | 5.5 | 5.4 | 9.0 | 7.4 |
| Vessel repairs and maintenance | 10.7 | 10.7 | 10.7 | 8.9 | 17.5 | 13.5 |
| Interest | 4.9 | 5.1 | 4.5 | 3.8 | 5.3 | 4.0 |
| Depreciation | 9.1 | 12.2 | 11.4 | 9.5 | 12.1 | 8.7 |
| All other expenses | 5.6 | 7.0 | 7.8 | 6.6 | 9.0 | 8.6 |
| Total operating expenses | 98.8 | 110.8 | 106.1 | 105.0 | 129.4 | 120.5 |
| Net income or (loss) before salaries | 1.2 | (10.8) | (6.1) | (5.0) | (29.4) | (20.5) |
| Corporation officers' & partners' salaries | 1.2 | 1.2 | 1.4 | 1.4 | 2.6 | 2.1 |
| Net income or (loss) before income taxes | 0.0 | (11.9) | (7.5) | (6.4) | (32.1) | (22.6) |

Continued on the following page.

**Table D-1–*Continued***
**Result of operations of shrimp fishermen in the harvesting of warmwater shrimp, fiscal years 2001-04, January-June 2004, and January-June 2005**

| Item | Fiscal years | | | | January-June | |
|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2003 | 2004 | 2004 | 2005 |
| | Unit value (*per pound*) | | | | | |
| Sold to processors/docks | $3.91 | $3.15 | $2.89 | $3.04 | $2.60 | $2.92 |
| Transferred to related processors/docks | 3.73 | 2.64 | 2.71 | 2.10 | 2.21 | 1.44 |
| Other sales | 4.56 | 3.66 | 3.41 | 3.80 | 3.28 | 4.19 |
| Total net sales | 3.93 | 3.16 | 2.91 | 3.06 | 2.62 | 2.95 |
| Operating expenses: | | | | | | |
| Labor | 1.10 | 0.84 | 0.78 | 0.80 | 0.63 | 0.72 |
| Fuel and oil | 0.90 | 0.94 | 0.83 | 1.04 | 0.98 | 1.20 |
| Groceries, & ice | 0.14 | 0.13 | 0.11 | 0.11 | 0.14 | 0.15 |
| Fishing gear | 0.31 | 0.27 | 0.18 | 0.19 | 0.22 | 0.20 |
| Taxes & licenses | 0.05 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 |
| Insurance | 0.19 | 0.19 | 0.16 | 0.17 | 0.23 | 0.21 |
| Vessel repairs and maintenance | 0.42 | 0.34 | 0.31 | 0.27 | 0.44 | 0.39 |
| Interest | 0.19 | 0.16 | 0.13 | 0.12 | 0.13 | 0.12 |
| Depreciation | 0.36 | 0.38 | 0.33 | 0.29 | 0.31 | 0.25 |
| All other expenses | 0.22 | 0.22 | 0.23 | 0.20 | 0.23 | 0.25 |
| Total operating expenses | 3.88 | 3.50 | 3.08 | 3.21 | 3.33 | 3.52 |
| Net income or (loss) before salaries | 0.05 | (0.34) | (0.17) | (0.15) | (0.72) | (0.58) |
| Corporation officers' & partners' salaries | 0.05 | 0.04 | 0.04 | 0.04 | 0.07 | 0.06 |
| Net income or (loss) before income taxes | 0.00 | (0.38) | (0.21) | (0.19) | (0.78) | (0.64) |
| | Number of firms reporting | | | | | |
| Net losses before salaries | 47 | 84 | 74 | 69 | 88 | 84 |
| Net losses before income taxes | 52 | 90 | 76 | 73 | 89 | 86 |
| Data | 124 | 126 | 125 | 123 | 108 | 110 |

[1] Fifteen firms reported data only for the four full years, and four firms reported data only for the two interim periods. Two firms started in 2002 while one firm in 2003 and two firms in 2004 ceased operation. Seven firms reported no sales in interim 2004 and five firms reported no sales in interim 2005 but reported some fixed expenses. Hence, the number of firms reporting data are different in each period. The total number of firms reporting data are 130.

Note: Some firms reported disaster relief funds or other government subsidies in other income. These other income are not included in the above data.

Source: Compiled from data submitted in response to Commission questionnaires.

From 2003 to 2004, the total net sales quantity declined by about 4 percent whereas the value of total net sales increased by only about 1 percent; on a per-pound basis, the average total operating expenses increased by $0.13 whereas the average unit value of total net sales rose by $0.15, resulting in a reduction in net loss of $0.02. However, the net loss was still $0.15 before corporation officers' or partners' salaries. The expense item with the largest per unit increase was fuel and oil, with a rise of $0.21. Labor (crew shares) rose by $0.02 as the value of total net sales increased slightly. Noticeable declines were in vessel repair and maintenance ($0.04), all other expenses ($0.03), and depreciation ($0.04). Taxes and licenses and groceries and ice, remained the same.

During the interim periods, the quantity and value of sales are lower in proportion to the full year data because the majority of shrimp is caught during the later half of the year. Between January-June 2004 and January-June 2005, the volume of total net sales increased by about 1 percent whereas the value

of total net sales rose by about 14 percent; on a per-pound basis, the average total operating expenses increased by $0.19 whereas the average unit value of total net sales rose by $0.33, resulting in a smaller net loss before corporation officers' or partners' salaries. The largest increase was in fuel and oil ($0.22) because of the rising price of oil, and labor (crew shares) which increased by $0.09. Because labor expenses on fishing boats are a percentage of revenue received, this increase was a function of the increase in the value of total net sales. The principally expense items to decline on a per unit basis were vessel repair and maintenance ($0.05), fishing gear ($0.02), insurance ($0.02), and depreciation ($0.06). Some firms did not report depreciation for both interim periods.

The number of firms reporting net losses before corporation officers' or partners' salaries rose from 47 in 2001 to 84 in 2002 and then declined to 74 in 2003 and 69 in 2004. Such number of firms decreased from 88 in January-June 2004 to 84 in January-June 2005.

## TOTAL ASSETS AND CAPITAL EXPENDITURES

The responding firms' data on total assets and capital expenditures for their warmwater shrimp operations are shown in table D-2.

**Table D-2**
**Total assets and capital expenditures of U.S. shrimp fishermen in the harvesting of warmwater shrimp, fiscal years 2001-04, January-June 2004, and January-June 2005**

| Item | Fiscal years | | | | January-June | |
|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2003 | 2004 | 2004 | 2005 |
| | Value (*dollars*) | | | | | |
| Total assets | 28,216,705 | 27,028,581 | 23,235,321 | 20,137,836 | 17,037,776 | 15,335,232 |
| Capital expenditures | 5,331,666 | 3,456,615 | 525,783 | 353,166 | 135,057 | 96,398 |

Source: Compiled from data submitted in response to Commission questionnaires.

Eighty-six firms reported total assets. Some of the firms did not report total assets for the interim periods. Total assets declined from $28.2 million in 2001 to $20.1 million in 2004. They were $17.0 million in January-June 2004 and $15.3 million in January-June 2005. Twenty-eight firms reported capital expenditures. The capital expenditures represent mainly the purchase of boats. The capital expenditures declined from $5.3 million in 2001 to $353,166 in 2004 and from $135,057 in January-June 2004 to only $96,398 in January-June 2005.

## CAPITAL AND INVESTMENT

The Commission requested U.S. shrimp fishermen to describe any actual or potential negative effects of imports of warmwater shrimp from India and/or Thailand on their firms' growth, investment, and ability to raise capital or development and harvesting efforts. Their responses are shown in appendix G.

# APPENDIX E

## SELECTED FINANCIAL DATA OF DOMESTIC PROCESSORS ON THEIR SHRIMP PROCESSING OPERATIONS

The tables in appendix E present selected financial data on the processing operations of domestic processors of warmwater shrimp. A summary of the data presented is as follows:

| Table | Data presented |
|---|---|
| E-1 | Sales quantities for all domestic processors[1] sorted in descending order of FY 2004 net sales values |
| E-2 | Sales values for all domestic processors sorted in descending order of FY 2004 net sales values |
| E-3 | Operating income/(loss) for all domestic processors sorted in descending order of FY 2004 net sales values |
| E-4 | Operating income/(loss) as a ratio to net sales for all domestic processors sorted in descending order of FY 2004 net sales values |
| E-5 | Unit value of net sales for all domestic processors sorted in descending order of FY 2004 net sales values |
| E-6 | Unit value of operating expenses for all domestic processors sorted in descending order of FY 2004 net sales values |

[1] The data correspond with data contained in table III-12.

**Table E-1**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

**Table E-2**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

**Table E-3**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

**Table E-4**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

**Table E-5**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

**Table E-6**
**Warmwater shrimp: Results of all domestic processors on their processing operations, fiscal years 2001-04, January - June 2004, and January - June 2005**

* * * * * * *

# APPENDIX F

## ALLEGED EFFECTS OF SUBJECT IMPORTS ON U.S. FIRMS' EXISTING DEVELOPMENT AND PRODUCTION EFFORTS, GROWTH, INVESTMENT, AND ABILITY TO RAISE CAPITAL

**The Commission requested U.S. processors to describe any actual negative effects since July 1, 2004, on their return on investment, growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of certain frozen or canned warmwater shrimp and prawns from India and/orThailand. Unless specifically noted, the producers did not distinguish between India or Thailand in their comments. The responses of those firms that provided useable financial data are as follows:**

* * * * * * *

**The Commission requested U.S. processors to describe any anticipated negative impact if the antidumping duty orders on imports of certain frozen warmwater shrimp and prawns from India and/orThailand were removed. Unless specifically noted, the producers did not distinguish between India or Thailand in their comments. The responses of those firms that provided useable financial data are as follows:**

* * * * * * *

# APPENDIX G

# ALLEGED EFFECTS OF SUBJECT IMPORTS ON U.S. FISHERMEN'S EXISTING DEVELOPMENT AND HARVESTING EFFORTS, GROWTH, INVESTMENT, AND ABILITY TO RAISE CAPITAL

The Commission requested fishermen to describe any actual or anticipated negative effects of imports of warmwater shrimp from India and/or Thailand, on their return on investment or their growth, investment, ability to raise capital, and existing development and harvesting efforts, or their scale of capital investments undertaken as a result of such imports. The responses are as follows:

**Actual Negative Effects**

* * * * * * *

**Anticipated Negative Effects**

* * * * * * *

# APPENDIX H

## MPEDA/SEAI FISHERY AND SHRIMP FARM ASSOCIATION QUESTIONNAIRES, ALL INDIA SHRIMP HATCHERIES ASSOCIATION QUESTIONNAIRE, NATIONAL FISHERIES ASSOCIATION OF THAILAND QUESTIONNAIRE, AND THAI SHRIMP ASSOCIATION HATCHERY AND SHRIMP FARM ASSOCIATION QUESTIONNAIRES

# MPEDA/SEAI FISHERY ASSOCIATION QUESTIONNAIRE

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*FISHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association Seafood Exporters Association of India**_____

**Address Seafood House**_____

**Wellingdon Island, Cochin 682 003, Kerala, India**_____

**World Wide Web address Nil**_____

## CERTIFICATION

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

*Abraham J Tharakan – President*
*Name and Title of Authorized Official*

*Signature of Authorized Official*

*22nd August 2005*
*Date*

*(0484)2666152 /157* *(0484) 2667470*
*Phone* *Fax*

*sealhq@md3.vsnl.net.in*
*E-mail address*

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ortune Asia Pacific Page 2 of

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**
*FISHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association: The Marine Products Export Development Authority****
**Address : P B No. 4272, Panampilly Avenue, Kochi 682 036 , Kerala, India**
**Ph: 91-484-2311979, Fax: 91-484 – 2313361, E-mail: mpeda@mpeda.nic.in**

**World Wide Web address : http://www.mpeda.com**

**CERTIFICATION**

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

Kuruvilla Thomas, Director (Marketing)
*Name and Title of Authorized Official*

*Signature of Authorized Official*

*Date*
*( 9.8.2005 )*
*Phone: 91-484-2315098 Fax/ 2313361*

*E-mail address: kuruvilla@mpeda.nic.in*

***There is no national level fishery association. However the relevant data for the questionnaire was collected from Boat Owners Associations in Tsunami affected regions. MPEDA is the nodal agency set up by the Government of India for the development and promotion of export of marine products (including shrimp) from India.***

F-1. Describe the type and extent of the tsunami damage caused to fishing boats and gear (nets, motors, etc.). Explain how long it will take to repair or replace the damaged and destroyed boats and gear. Describe any barriers to the fishermen repairing or replacing their boats and gear (lack of finances, scarcity of repair/replacement materials or qualified craftsmen, etc.).

The Tsunami has affected mainly the states of Kerala, Tamil Nadu and Andhra Pradesh and Union Territories of Pondicherry and Andaman and Nicobar Islands. The worst affected areas were Nagapattanam. The worst affected regions were Nagapattanam, Kanyakumari, Kollam, Cuddalore, Chennai and parts of Southern Andhra Pradesh. The details of fishing vessels destroyed or damaged as per the information Compiled by the Government of India.

**FISHING VESSELS DESTROYED OR DAMAGED**

| States & Union Territory | Pre-Tsunami Fleet | Vessels Destroyed/Severely Damaged by Tsunami | % Lost |
|---|---|---|---|
| Andhra Pradesh | 66,659 | 12,189 | 18.28 |
| Tamil Nadu | 65,797 | 52,638 | 80.00 |
| Kerala | 50,024 | 10,882 | 21.75 |
| Pondicherry | 8,362 | 6,678 | 79.86 |
| Andaman & Nicobar | 1,570 | 1,401 | 89.23 |
| Total: | 192,412 | 83,788 | 57.82 |

Source: *Ministry of Agriculture, Dep't of Animal Husbandry, Dairying & Fisheries, Gov't of India*

**DAMAGE TO FISHING GEAR**

| *States & Union Territory* | *Number* | *MT* |
|---|---|---|
| Tamil Nadu | 155,000 | -- |
| Andhra Pradesh | 47,000 | -- |
| Kerala | 349 | 915 |
| A&N Islands | 7,017 | -- |
| Total: | 209,366 | 915 |

India's fishermen are among the most impoverished in the country, and very few had insurance to cover the tsunami's damages. No firm information is as yet available on how long it will take to repair or rebuild all of the destroyed and damaged fishing vessels, if ever. Such works involve large financial outlay by public agencies like state governments. Based on past experience, it is assumed that repairs and restoration of fishing infrastructure are likely to take one year or more.

The main barrier to repair and replacement of damaged or lost equipments is lack of finance. Institutional lending to the fishermen community is problematic as they do not have enough collateral or other means for securing loan. In addition, in Southern India lack of materials such as 'Albizia' wood, which is required for construction of boats, has emerged as a major problem. Also, there are reports that sufficient spare parts are not available in many areas. Further adequate availability of skilled craftsmen is a problem and hence we apprehend that the repairing and replacement of damaged / destroyed vessels may take considerably more than one year.

F-2. Please describe any impediments to non-local warmwater shrimp fishermen operating in areas affected by the tsunami.

India's commercial fishing boats are not owned by corporations, which might allow their commissioning to operate in different areas; rather they are owned by individuals or families, who depend on them for their livelihood.

India's fishing hamlets are strongly parochial and as an unwritten rule, fishermen from certain areas cannot operate out of others. Though there are no territorial licensing norms, the state governments tend to respect the traditional territorial delineations and act accordingly.

Given the dissimilar physical characteristics of the west and east coasts of India, it is unrealistic to redirect idle fishing boats from one coast to the other to offset the tsunami's destruction of fishing boats. In effect, the east and west coasts of India are distinct commercial fishing areas without any significant possibility of interchange of fishing craft.

In the aftermath of the tsunami, expenses on fuel for non-local fishermen has been higher. This is due to the fact that absence of shrimp in the inner shelf from the shore to a depth of 50 meters has been widely reported in Kerala. In cases like these, fishermen have to incur higher fuel expenses. If the catch is not sufficient, the fishermen are at loss.

The price of kerosene in the open market ranges between Rs. 25 and Rs. 30 per litre. The existing quota per month per boat becomes insufficient to fishermen.

Therefore, due to the present exorbitant fuel costs, labour charges etc. the fishing vessels in general may not venture for fishing in areas even if some good catching takes place in certain areas.

F-3. Since the tsunami, have the warmwater shrimp fishermen in the areas affected by the tsunami experienced any changes in sea catch per-boat, per-voyage?

☐ No ☒ Yes. Please describe the changes in sea catch per-boat, per-voyage.

An analysis of the fish catch of states affected by tsunami as given below indicates the changes experienced by fishermen:

In Kanyakumari region, for example, per boat, per voyage shrimp catch for the months of January, February and March 2004 was Rs. 6500, Rs. 7800 and Rs. 7900 respectively. In the corresponding months in 2005, the per boat shrimp catch has been Rs. 2300, Rs.1900 and Rs.5800. Therefore, shrimp catch per boat, per voyage has come down in the months after the tsunami. The catch during the months of January and February has been very low also because of the fact that most of the fishermen did not resume fishing after the tsunami.

In the previous years, during the months of May-June, when shrimp availability is highest, the per boat catch stood between 100 to 120 kg, per voyage in Kollam region. The quantitative details provided here are available based on a study done in this region. In the current year, the per boat, per voyage shrimp catch has come to below 60 kg. In Trivandrum region, the catch this year has been nearly 50% less than the previous year's catch.

It is experienced that during the year 2003-04 each voyage of fishing by the mechanized fishing boats are able to fetch a minimum of 100 kg of shrimps and 1 MT of fresh fish of low value and 200 Kilo of high value. The owners of the vessels make a marginal profit and some them manage to break–even . After the Tsunami, for the same effort they are incurring heavy losses due to poor catch. It is also experienced that most of the high value fishes are missing from the seabed and even if they are caught, they are of smaller size having no value. The prawn, which is the most wanted variety in the fishing, is reduced to 60 – 80% of the previous years.

After tsunami the catch per boat per voyage was very low, even in peak season periods. Operational expenses are increasing especially diesel price and cost of the net. But catch per boat per voyage has kept on decreasing after tsunami. It now become quite difficult to run the fishing operations.

After the tsunami, fishermen have experienced frequent changes in directions of the water current. This has made sea voyage difficult. Again, due to changes in the current direction, predicting shrimp shoals has become difficult. The time required for an expedition is higher, as also the operating costs.

However, there were reports that in certain areas the landings had some marginal recovery after tsunami. This may be due to the fact that with literally no fishing for three months from January to April 2005 and the subsequent fishing bans in the state of Andhra Pradesh, Tamil Nadu and Kerala, there was enough time for fish stocks to grow. This can be the reason why the fewer fishermen who have returned to the sea in the tsunami-affected areas after this period have netted somewhat normal catches which may be stray incidents.

F-4. Please report the following information regarding the impact of the tsunami on warmwater shrimp fishermen:

Following is the details of people in various state who lost their lives in the Tsunami . It is estimated that 90% of them were fishermen and their families only.

| Item | Pre-tsunami | Killed | Injured | Displaced |
|---|---|---|---|---|
| **FISHERMEN** *(number)* | 738,400 (full time)[1] | 17,054 | 5,889 | 570,252 |

| Item | Pre-tsunami | | | Destroyed | | | Damaged | | | Post-tsunami |
|---|---|---|---|---|---|---|---|---|---|---|
| **Boats | NM | M | Total | NM | M | Total | NM | M | Total | Total |
| Tamil Nadu | 47309 | 18488 | 65797 | 31383 | 10795 | 42178 | 7125 | 3335 | 10460 | 13159 |
| Kerala | 28456 | 21568 | 50024 | 4068 | 1009 | 5077 | 4898 | 907 | 5805 | 39142 |
| Andhra Pradesh | 53853 | 12806 | 66659 | 826 | 536 | 1362 | 7460 | 3367 | 10827 | 54470 |
| Pondicherry | 7297 | 1065 | 8362 | 3720 | 2919 | 6639 | 00 | 39 | 39 | 1684 |
| Andaman Nicobar | 1180 | 390 | 1570 | 413 | 376 | 789 | 201 | 411 | 612 | 169 |
| **Total (affected area)** | 138095 | 54317 | 192412 | 40410 | 15635 | 56045 | 19684 | 8059 | 27743 | 108624 |
| **Total (India)** | 181284 | 98262 | 280491 | 40410 | 15635 | 56045 | 19684 | 8059 | 27743 | 196703 |
| Replacement cost *(US dollars in Thousand)* | | | | TN: 78,471<br>K: 9,446<br>A.P.: 2,534<br>P: 12,352<br>A&N: 1,468<br>104,271 | | | | | | |
| Repair cost *(US dollars in Thousand)* | | | | | | | TN: 2,919<br>K: 1,620<br>AP: 3,021<br>P: 11<br>A&N: 171<br>7,742 | | | |

NM – Non-motorized M - Motorized

| *NETS: | Pre-tsunami | Destroyed | Damaged | Post tsunami |
|---|---|---|---|---|
| Tamil Nadu<br>Andhra Pradesh<br>Kerala<br>A&N Islands | - | 155,000<br>47,000<br>349 (& 915 MT)<br>7,017 | - | - |
| Total *(number and MT)* | - | 209,336 & 915 MT | - | - |
| Replacement cost *(1,000 dollars)* | | TN: 72,093<br>K : 7,610<br>AP: 21,860<br>A&N: 3,264<br>104,827 | | |
| Repair cost *(1,000 dollars)* | | | - | |
| **MOTORS: | | | | |
| Total *(number)* | 98262 | 15635 | 8059 | 74568 |
| Replacement cost *(1,000 dollars)* | - | - | - | - |
| Repair cost *(1,000 dollars)* | - | - | - | - |

Source: Ministry of Agriculture , Dep't of Animal Husbandry, Dairying & Fisheries, Govt. of India

* We do not maintain any data on total nets in use and have only the figures of damaged nets.

** Data on motors are not separately maintained. For purposes of this response we have estimated the number of motors damaged and destroyed based on the available data for boats.

[1] Source: Source: Livestock Census 1992- Summary Tables Volume 1 (Quoted in Handbook of Fisheries Statistics 2000 GOI)

REUSED F-5
9/20/05

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*FISHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association Explanations given in the footnote ****

**Address : The Marine Products Export Development Authority, P B No. 4272, Panampilly Avenue, Kochi 682 036 , Kerala, India**
**Ph: 91-484-2311979, Fax: 91-484 – 2313361, E-mail: mpeda@mpeda.nic.in**

**World Wide Web address : http://www.mpeda.com**

**CERTIFICATION**

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

**Kuruvilla Thomas, Director (Marketing)**
*Name and Title of Authorized Official*

*Date*
*(20.09.2005 )*

*Signature of Authorized Official*

*Phone: 91-484-2315098 Fax: 2313361*

*E-mail address: kuruvilla@mpeda.nic.in*

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*FISHERY ASSOCIATIONS*

REVISED FS 9/20/05

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** Seafood Exporters Association of India

**Address** Seafood House

Wellingdon Island, Cochin 682 003, Kerala, India

**World Wide Web address** NB

**CERTIFICATION**

*I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.*

*By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)*

*I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.*

*Abraham J Thorakan*
*Name and Title of Authorized Official*

*Signature of Authorized Official*

For The Sea Food Exporters Association of India

President

*20th September 2005*
*Date*

*(91) 484 2666152/572* *(91) 484 2667470*
*Phone* *Fax*

*seaihq@md3.vsnl.net.in*
*E-mail address*

REVISED F-5 9/20/05

## SEAI/MPEDA Merged Table

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| *Warmwater shrimp catch *(1,000 pounds)* | K: 67269<br>AP: 37681<br>TN: 32806<br><br>All India (Penaeid): 377610 | K: 26180<br>AP:12058<br>TN: 9152<br><br>All India (Penaeid): 110205 | K:22506<br>AP:6503<br>TN: 5133<br><br>All India (Penaeid): 93014 | K: 21491<br>AP:4329<br>TN:7348<br><br>All India (Penaeid): 66150 | ***K: 18475E***<br>***AP:2335E***<br>***TN:4121E***<br><br>***All India Penaeid 57913E*** | ***K: 58637E***<br>***AP:25873 E***<br>***TN:18223E***<br><br>***All India Penaeid 342567E*** | ***K: 64501E***<br>***AP:28460E***<br>***TN:20045E***<br><br>***All India Penaeid 352840E*** |
| ** Broodstock catch *(1,000 pounds)* | ***Ker AP TN 184000E***<br><br>***National 200,000*** | ***K: 6000***<br>***AP: 54,000***<br>***TN: 23,000***<br>***A&N:5000***<br><br>***National 95,500*** | ***K: 5000***<br>***AP:48,000***<br>***TN: 17,000***<br>***A&N:NIL***<br><br>***National 80,000*** | ** | ** | ***Ker AP TN 138000E***<br><br>***National 150000E*** | ***Ker AP TN 161000E***<br><br>***National 175000E*** |
| Total | | | | | | | |
| **BOATS** ***(number)*** | 280491 | 280491 | 196703 | 280491 | ***217650E*** | ****276302E*** | ***280491E*** |
| **FISHING GEAR***:** | | | | | | | |
| Nets *(number)* | - | - | - | - | - | - | - |
| Nets *(square meters)* | - | - | - | - | - | - | - |
| **FISHERMEN** ***(number)*** | 738,400 (full time) | 738,400 (full time) | ***590000E*** | 738,400 (full time) | ***662015E*** | ***705224E*** | ***719624E*** |

Data in bold and italics are provided by SEAI. All other data are provided by MPEDA.

ORIGINAL

## F-5 Merged Table

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| Warmwater shrimp catch *(1,000 pounds)* | K: 72989<br>AP: 39899<br>TN: 34257<br><br>All India (Penaeid): 361894 | K: 26180<br>AP:12058<br>TN: 9152<br><br>***National 116,552 E*** | K:22506<br>AP:6503<br>TN: 3627<br>(Jan-Feb)<br>***10,963 E (Mar)***<br>***43,599E (Q1)***<br><br>***National 80,266E (Jan-Feb)***<br>***26,962E (Mar)***<br>***107,228E (Q1)*** | K: 21491<br>AP:4329<br>TN:7348<br><br>***National 81,574E*** | ***Ker, AP,TN 31,841E***<br><br>***National 78,311 E*** | ***Ker, AP,TN 138,317E***<br><br>***National 340,180E*** | ***Ker, AP,TN 133476E***<br><br>***National 328,274E*** |
| Broodstock catch *(1,000 pounds)* | ***Ker AP TN 184,000 E***<br><br>All India 200,000 | K: 6000<br>AP: 54,000<br>TN: 23,000<br>A&N:5000<br><br>***National 95,500*** | K: 5000<br>AP:48,000<br>TN: 17,000<br>A&N:NIL<br><br>***National 80,000*** | **<br><br>** | **<br><br>** | ***Ker AP TN 138000E***<br><br>***National 150000E*** | ***Ker AP TN 161000E***<br><br>***National 175000E*** |
| Total | | | | | | | |
| **BOATS *(number)*** | 280491 | 280491 | 196703 | 280491 | ***217,650E*** | ****276,302E*** | ***280,491E*** |
| **FISHING GEAR***:** | | | | | | | |
| Nets *(number)* | - | - | - | - | - | - | - |
| Nets *(square meters)* | - | - | - | - | - | - | - |
| **FISHERMEN *(number)*** | 738,400 (full time) | 738,400 (full time) | ***590,000 E*** | 738,400 (full time) | ***662,015 E*** | ***705,224 E*** | ***719,624 E*** |

Figures in bold, italics are from the August 22, 2005 Fishery Associations Questionnaire Response of the Seafood Exporters Association of India. All other figures are from the August 17, 2005 Fishery Associations Questionnaire Response of the Marine Products Export Development Authority.

REVISED F-5
9/20/05

**MPEDA**

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| *Warmwater shrimp catch *(1,000 pounds)* | K: 67269<br>AP: 37881<br>TN: 32806<br><br>All India (Penaeid): 377610 | K: 26180<br>AP:12058<br>TN: 9152<br><br>All India (Penaeid): 110205 | K:22506<br>AP:6503<br>TN: 5133<br><br>All India (Penaeid): 93014 | K: 21491<br>AP:4329<br>TN:7348<br><br>All India (Penaeid): 66150 | | | |
| ** Broodstock catch *(1,000 pounds)* | | | | | | | |
| Total | | | | | | | |
| **BOATS** *(number)* | 280491 | 280491 | 196703 | 280491 | | | |
| **FISHING GEAR***:** | | | | | | | |
| Nets *(number)* | - | - | - | - | - | - | - |
| Nets *(square meters)* | - | - | - | - | - | - | - |
| **FISHERMEN** *(number)* | 738,400 (full time) | 738,400 (full time) | | 738,400 (full time) | | | |

The 2004 data previously submitted was provisional data from CMFRI. See Prehearing Report at Appendix H (India's Fishery Associations' Questionnaire Response at F-5 fn. *.). These data have since been updated. The 2004 data above reflect these updates. Additionally, at the time of MPEDA's previous submission, March 2005 data for Tamil Nadu were not available. March 2005 landings data for Tamil Nadu are now available. CMFRI data for January-March 2005 are provisional. Data for April - June 2005 are not available.

ORIGINAL F5

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| *Warmwater shrimp catch *(1,000 pounds)* | K: 72989<br>AP: 39899<br>TN: 34257<br><br>All India (Penaeid): 361894 | K: 26180<br>AP:12058<br>TN: 9152 | K:22506<br>AP: 6503<br>TN: 3627<br>(Jan-Feb) | K: 21491<br>AP:4329<br>TN:7348 | | | |
| ** Broodstock catch *(number)* | All India: 200,000 | K: 6000<br>AP: 54,000<br>TN: 23,000<br>A&N:5000 | K: 5000<br>AP:48,000<br>TN: 17,000<br>A&N:NIL | ** | ** | | |
| Total | - | - | - | - | - | - | - |
| **BOATS** *(number)* | 280491 | 280491 | 196703 | 280491 | | | |
| **FISHING GEAR***:** | | | | | | | |
| Nets *(number)* | - | - | - | - | - | - | - |
| Nets *(square meters)* | - | - | - | - | - | - | - |
| **FISHERMEN** *(number)* | 738,400 (full time) | 738,400 (full time) | | 738,400 (full time) | | | |

* This data was taken from the Estimated Marine Fish Landings for year 2004 (Provisional) by the Central Marine Fisheries Research Institute (CMFRI) which tabulates only annual data and not quarterly. No quarterly data are available.

There is a considerable time lag in compilation and comparison of the production data. As of now only data for January and February are available. And it will take a few more months to make available the data for the other months.

**Estimated Marine Fish Landings (in 1000s of pounds) for year 2004 (Provisional)**

| | Penaeid |
|---|---|
| West Bengal | 19777 |
| Orissa | 17134 |
| Andhra Pradesh | 39899 |
| Tamil Nadu | 34257 |
| Pondicherry | 611 |
| Kerala | 72989 |
| Karnataka | 21381 |
| Goa | 4085 |
| Maharastra | 106408 |
| Gujarat | 45353 |
| **Grand Total** | 361894 |
| Non Penaeid | 276814 |

Non penaeid shrimp are very small sized shrimp. The major portion of these shrimp goes to fish meal production.

** 1. Broodstock Catch: Source: All India Shrimp Hatcheries Association. The data given are in numbers and the data given in January-March 2004 & 2005 is for the period January-June 2004 & 2005. We do not have quarterly data.

2. In India no fishing vessel ventures exclusively for shrimp fishing. In 1999, India's fleet of fishing crafts totaled 280,491 boats (181,284 non-motorized traditional crafts, 44578 motorized traditional crafts and 53,684 mechanized boats). The catch landed is mixture of different varieties. And hence the figures pertaining to boat/gears/fishermen engaged in shrimp fishing brood stock catch are not available. Further since there is specific seasonal time for shrimp/cuttlefish etc, and fishermen use respective nets for fishing according to the availability. Also there is no fishing in India exclusively for brood stock. Instead brood stock are caught along with other species. Data on broodstock is maintained only on a historical basis. In the marine landings, shrimps constitute 10% approximately and the value of shrimp will vary according to species and size. However, since shrimps fetches the highest price, fishermen always consider shrimp catch as the most valuable one for their fishing operations.

*** We do not maintain any data on total nets in use and have only the figures of damaged nets.

*Certain data and projections are still being collected.*

REVISED F5
9/20/05

**SEAI**

F-5. Please report the following information regarding the warmwater shrimp and brookstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| Warmwater shrimp catch *(1,000 pounds)* | | | | | K18475E<br>AP2335 E<br>TN4121 E<br><br>National 57913E | K58637E<br>AP25873 E<br>TN18223 E<br><br>National 342567E | K64501E<br>AP28460 E<br>TN20045 E<br><br>National 352840E |
| Broodstock catch *(numbers)** | AP, TN, K and A&N 184,000E<br><br>National 200,000 | K: 6000<br>AP: 54,000<br>TN: 23,000<br>A&N:5000<br><br>National 95,500 | K: 5000<br>AP48000<br>TN: 17,000<br>A&N:NIL<br><br>National 80,000 | ** | ** | K, AP, TN and A&N 138000E<br><br>National 150000E | K, AP, TN and A&N 161000E<br><br>National 175000E |
| Total | | | | | | | |
| **BOATS** ***(number)*** | | | | | 217650E | **276302 E | 280491E |
| **FISHING GEAR:** | | | | | | | |
| Nets *(number)* | | | | | | | |
| Nets *(square meters)* | | | | | | | |
| **FISHERMEN** ***(number)*** | | | 590000E | | 662015E | 705224E | 719624E |

* Brood stock catch data is for half year January June as quarterly data are not available. Actual broodstock catch data are from India's Shrimp Hatcheries Associations' Questionnaire Response.

** Major portion of the boats still to be repaired/replaced at the end of 2005 are deep sea trawlers which account for the bulk of the shrimp wild catch.

ORIGINAL F5

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| Warmwater shrimp catch *(1,000 pounds)* | | 116,552 E | Ker, AP,TN 10,963 E (Mar) 43,599E (Q1)<br>National 80,266E (Jan-Feb) 26,962E (Mar) 107,228E (Q1) | National 81,574E | Ker, AP,TN 31,841E<br>National 78,311 E | Ker, AP,TN 138,317E<br>National 340,180E | Ker, AP,TN 133476E<br>National 328,274E |
| Broodstock catch *(numbers)* | Ker AP TN 184,000 E | National 95,500 | National 80,000 | | | Ker AP TN 138000E<br>National 150000E | Ker AP TN 161000E<br>National 175000E |
| Total | | | | | | | |
| **BOATS** ***(number)*** | | | | | 217,650E | *276,302E | 280,491E |
| **FISHING GEAR:** | | | | | | | |
| Nets *(number)* | | | | | | | |
| Nets *(square meters)* | | | | | | | |
| **FISHERMEN** ***(number)*** | | | 590,000 E | | 662,015 E | 705,224 E | 719,624 E |

* Major portion of the boats still to be repaired/replaced at the end of 2005 are deep sea trawlers which account for the bulk of the shrimp wild catch.

** Brood stock catch data is for half year January June as quarterly data are not available.

# MPEDA/SEAI SHRIMP FARM QUESTIONNAIRE (BLACK TIGER)

# CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND
## (Investigations. Nos. 751-TA-28-29)

*SHRIMP FARM ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association Seafood Exporters Association of India**

**Address Seafood House**

**Wellingdon Island, Cochin 682 003, Kerala, India**

**World Wide Web address –NIL–**

## CERTIFICATION

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

*Abraham J Tharakan – President*
*Name and Title of Authorized Official*

*Signature of Authorized Official*

*22nd August 2005*
*Date*

*(0484)2666152 /157* *(0484) 2667470*
*Phone* *Fax*

*seahq@md3.vsnl.net.in*
*E-mail address*

S-1. Please report the States/Provinces in which warmwater shrimp farms are located and the quantities produced in each location during January-June 2004 and January-June 2005.

| State/Province of warmwater shrimp farms | Quantity *(1,000 pounds)* | |
|---|---|---|
| | January-June 2004 | January-June 2005 |
| TAMIL NADU | 5889 | 2173 |
| WEST BENGAL | 2895 | 3658 |
| ORISSA | 6789 | 6110 |
| ANDHRA PRADESH | 52800 | 51931 |
| KERALA | 9148 | 9105 |
| KARNATAKA | 1541 | 2206 |
| MAHARASHTRA | 3175 | 3025 |
| GUJARAT | 717 | 572 |
| TOTAL | 82954 | 78780 |

S-2. (a) Describe the type and extent of damage caused to warmwater shrimp farms by the tsunami.

**The basic damages are mainly on physical loss of dykes, sluice gates, inlets, and outlets, pump houses, farm facilities such as store, office, residential rooms, farm equipments and machineries. The secondary damages include loss of crop and stock and inputs like shrimp feeds, probiotics, lime etc. Based on the provisional assessment made by MPEDA through its field offices in the affected states the value of loss due to Tsunami destruction was around Rs.145.84 million (US $ 3.3 million). It is understood that in Cuddalore and Nagapattinam Districts of Tamil Nadu the water quality parameters in the creeks have changed considerably. Incursion of saline water into fresh water river areas which reduces the growth of shrimps. Many creeks , estuaries like Arasalar and Thirumalirajanar at Karaikkal (UT of Pondicherry/ State of Tamil Nadu) were heavily silted and affecting the flow of water into the creek/estuary during the high tide leading to increase of salinity in the creeks and estuaries.**

(b) Please describe the time and cost involved in repairing or reconstructing the damaged warmwater shrimp farms, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).

**The shrimp farms destroyed are mainly in the Coastal Regulated Zone (CRZ). The development works in the CRZ area are regulated by the Government of India under the CRZ Act.**

**Hence, necessary approval will be mandatory to start fresh construction works in this Zone which is likely to be time consuming in view of the rules and regulations followed by the Government of India.**

**The repairs and restoration of infrastructure damaged in the shrimp farm areas will be a long-term programme. Apart from farms, public properties such as road, bridges etc are also damaged. The repair of those infrastructure facilities may take a year or more for which allocation of funds is still being sought. See Attachment "Infrastructure Damage."**

S-3. Please provide the quantity and replacement costs of post larval warmwater shrimp and farmed warmwater shrimp lost as a result of the tsunami.

| | Post larval warmwater shrimp | | Farmed warmwater shrimp | |
|---|---|---|---|---|
| States | Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(number)* | Replacement costs *(1,000 dollars)* |
| Tamil Nadu | 6.7 million | 38,00 * | 5 million | 1,132 ** |

1 US $ = Rs.44.19

N.B: Except for minor physical damages to infrastructures in shrimp farms in Andhra Pradesh and Kerala shrimp farms in these states did not lose any notable post larval warmwater shrimp and farmed warmwater shrimp as a result of the tsunami.

The above details were compiled by the field office of MPEDA, located in the concerned state.

S-4. (a) How were the salinity levels of the warmwater shrimp farms affected by the tsunami?

☑ Increased ☑ Unchanged ☐ Decreased

creek water sea water

(b) What percentage of warmwater shrimp farms experienced increased salinity levels?

**The shrimp farms of Tamilnadu were affected by tsunami and in particular in Nagappatinam and Cuddalore Districts. Out of 3000 hactares in the Districts 1800 ha. was affected which is 60 percent.**

(c) How many hectares does this represent?

**1800 hectares**

(d) Please describe how changes in salinity levels impacted the warmwater shrimp being raised at the time of the tsunami.

**Due to ingression of seawater the salinity in the backwaters and estuaries had increased. The increase of salinity could affect the metabolism causing retardation of shrimp growth which reduces the production levels. Further the crop pattern of farming operations of shrimp changed in the Tsunami affected region.**

(e) Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the warmwater shrimp farms.

**The current production level will be affected severely due to increase in salinity of the creek water resulting in slower rate of growth of shrimps which in turn increases cost of production due to longer culture period. The changes mentioned above also may affect the future expansion of aquaculture for the coming few years in the Tsunami affected places.**

S-5. (a) Aside from changes in salinity levels, were warmwater shrimp farms affected by any other adverse changes as a result of the tsunami?

☐ No. ☑ Yes, please describe the changes

1) **Siltation of farm bottom, wherever saline water entered into farms**
2) **Because of the siltation in the rivers the distance of water intake systems increased. This required additional investment for excavating additional feeder canal or laying new pipelines.**
3) **Most of the approach roads to the shrimp farms situated near the affected place were mud roads, which are either damaged or eroded totally which requires investment for restoration.**
4) **Further, the damages caused to power lines, breakages to the transformers, electric poles and telephone junction boxes in the affected areas, requires repairs and reinstallation.**

(b) What percentage of warmwater shrimp farms experienced such changes?

**10-20 percent of the developed farms.**

(c) What percentage of production does this represent?

**It represents 12 percent of the production.**

(d) Please describe how these changes impacted the warm water shrimp being raised at the time of the tsunami.

1) **Total crop loss**
2) **Loss of Equipments/machineries/stored feed**
3) **Erosion/damages to the bunds, feeder canals, Inlets, outlets**
4) **Outbreak of epidemic diseases**
5) **Change of salinity in ground water sources in the affected hamlets**
6) **Total loss/damages to the affected village hamlets**

(e) Please describe how these changes affect current and future production as well as any future expansions/improvements to the warmwater shrimp farms.

**Shrimp cannot be stocked in too shallow ponds. Huge expenditure is required for desilting ponds and repairing the sluice etc. This will take away the working capital planned and kept by farmers. Since more funds are required for improving the existing farms further expansion will be delayed.**

S-6. (a) Please provide the following information concerning the number of warmwater shrimp farm employees displaced, injured, or killed in the tsunami.

**Displaced: 6 Villages (each containing more than 100 villagers)**

**Injured: More than 100**

**Killed: 4**

**The skilled labourers of farming villages were not present in the farm sites during tsunami in harvested farms. However, in the operational farms, more than 100 employees were injured and four skilled technicians lost their life in the farms at South Poigainallur in Nagapattinam district and at Kovalam in Kancheepuram district.**

(b) What percentage of displaced or injured employees have returned to their jobs?

**20 percent.**

(c) Have the warmwater shrimp farms been able to replace those employees lost as a result of the tsunami?

☐ ☑

No. Yes, please describe any difficulties in obtaining replacement labor

**Due to the fear caused by Tsunami waves the labour force in the coastal areas have migrated to safer areas . Hence, there is a reduction in the availability of labourers . This has resulted in demand for higher wages. Further, in order to attract the labourers to these regions, various protective and safety measures against such natural calamities are also required to be taken up.**

S-7. Are any warmwater shrimp farms operating in specially designated areas subject to restrictions and regulations on the production of warmwater shrimp (e.g., India's Coastal Regulation Zone)?

☐ No. ☑ **Yes, please give the percentage of warmwater shrimp farms that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.**

**80% of the shrimp farms in the country are operated with lower stocking density mainly in the Coastal Regulation Zone. Within CRZ, only traditional and improved traditional type of farming is allowed. Farmers can also go in for higher production , productivity and returns with a maximum stocking density of 6 per mtr sq. as per the guidelines of Aquaculture Authority. Outside the CRZ most of the farms are modified extensive farms wherein the maximum stocking density is restricted to 10 per mtr sq. as per the Aquaculture Authority. However, most of the farms in this region also follow the low density culture practices. Semi intensive and intensive farming are not permitted either within CRZ or outside the CRZ.**

**There is a serious scarcity of brood stock of the native black tiger shrimp at present. Sanitary and phytosanitary restrictions of the Govt. of India do not allow the free import of non native brood stock as replacement and this can be a serious bottleneck.**

S-8. Since the tsunami, have warmwater shrimp farms experienced any difficulty in obtaining post larval warmwater shrimp (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?

☐ No. ☑ Yes, please describe any difficulties.

**Due to loss of fishing boats and gear fishermen are not able to venture into sea and collect the brooder and gravid shrimps. The availability of quality brooders has also reduced. The**

## S-10 Merged Table

S-10. Please report the following information regarding the number of warmwater shrimp farms in production, production capacity, production, and employees in the warmwater shrimp farms.

| Item | 2004 | Jan.-Mar. 2004 | Jan.-Mar. 2005 | Apr.-June 2004 | Apr.-June 2005 | Projections 2005 | Projections 2006 |
|---|---|---|---|---|---|---|---|
| **FARMS IN PRODUCTION:** | | | | | | | |
| Extensive[1] *(hectares)* | 154600 | 154600 | 136390 | ***154600*** | ***138195E*** | 140000 | 145000 |
| Semi-intensive[2] *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Intensive[3] *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total *(hectares)* | 154600 | 154600 | 136390 | ***154600*** | ***138195E*** | 140000 | 145000 |
| In Regulated/Restricted Coastal Areas[4] *(hectares)* * | 123680 | 123680 | 110000 | ***123680*** | ***110000E*** | 110000 | 110000 |
| Affected by water contamination or other tsunami related damage[5] *(hectares)* | — | — | 2000 | — | ***1500E*** | ***1000E*** | ***0E*** |
| **CAPACITY:** | | | | | | | |
| Average production capacity (in 1000 Pounds) | 316527 | 231497 | 197973 | ** | ** | 290400 | 317900 |
| In Regulated/Restricted Coastal Areas[1] (In 1000 pounds) | 146467 | 146467 | 125400 | ** | ** | 125400 | 125400 |
| Affected by water contamination or other tsunami related damage[5] *(in 1000 pounds)* | — | — | 5500 | — | ***4000E*** | ***2500E*** | ***0E*** |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(in 1000 pounds)* | 82954 | 82954 | 78780 | ** | ** | ***75115E*** | ***77420E*** |
| Second harvest cycle *(in 1000 pounds)* | 165613 | — | — | — | — | ***149985E*** | ***154580E*** |
| Total *(in 1000 pounds)* | 248567 | 82954 | 78780 | ** | ** | ***225100E*** | ***232000E*** |
| **EMPLOYEES** *(number)* | 150000 | 150000 | 130000 | ***150000*** | ***132500E*** | 135000 | 140000 |

1 An overall stocking density not exceeding 30,000 post larval shrimp per hectare.

2 An overall stocking density from 30,000 to 150,000 post larval shrimp per hectare.

3. An overall stocking density in excess of 150,000 post larval shrimp per hectare.

N.B. ***However, the above classifications are non relevant to the shrimp culture practices in India, as the Aquaculture Authority of India has clearly prescribed a stocking density of up to 60,000 post larvae per ha as extensive culture and up to 1,00,000 post larvae per ha under modified extensive culture. The figures provided in the chart under the head " Extensive" represents both extensive and modified extensive types of culture, as defined by the Aquaculture Authority, while under the head " In Regulated/ Restricted Coastal Areas", the figures represent the area under extensive culture only.***

4 Provide the total number of warm water shrimp farms located within specially designated areas subject to limitations on the production of post larval.

5 Please describe "other" tsunami related damage. **Breaches in the bunds, sluice gates, siltation, non availability of workers, technicians, post larval warmwater shrimp etc.**

Figures in bold italics are from the August 22, 2005 Shrimp Farm Associations Questionnaire Response of the Seafood Exporters Association of India. All other figures are from the August 22, 2005 Revised Shrimp Farm Associations Questionnaire Response of the Marine Products Export Development Authority.

**escalated cost and short supply of brooder affected many hatcheries (more than 32%) and had to shut down their production. Post-Larval supply was also limited and many supply contracts were cancelled after the Tsunami.**

S-9. Since the tsunami, have you experienced any decline in the quality of post larval warmwater shrimp available to your warmwater shrimp farms?

☐ No. ☑ Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

**It has been reported that there has been heavy mortality in the hatcheries due to unknown reasons.**

S-10. Please report the following information regarding the number of warmwater shrimp farms in production, production capacity, production, and employees in the warmwater shrimp farms.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **FARMS IN PRODUCTION:** | | | | | | | |
| Extensive[1] *(hectares)* | 154600 | 154600 | 136390 | ** | ** | 140000 | 145000 |
| Semi-intensive[2] *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Intensive[3] *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total *(hectares)* | 154600 | 154600 | 136390 | ** | ** | 140000 | 145000 |
| In Regulated/Restricted Coastal Areas[4] *(hectares)* * | 123680 | 123680 | 110000 | ** | ** | 110000 | 110000 |
| Affected by water contamination or other tsunami related damage[5] *(hectares)* | — | — | 2000 | — | — | — | — |
| **CAPACITY:** | | | | | | | |
| Average production capacity (in 1000 Pounds) | 316527 | 231497 | 197973 | ** | ** | 290400 | 317900 |
| In Regulated/Restricted Coastal Areas[1] (In 1000 pounds) | 146467 | 146467 | 125400 | ** | ** | 125400 | 125400 |
| Affected by water contamination or other tsunami related damage[5] *(in 1000 pounds)* | — | — | 5500 | — | — | — | — |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(in 1000 pounds)* | 82954 | 82954 | 78780 | ** | ** | — | — |
| Second harvest cycle *(in 1000 pounds)* | 165613 | — | — | — | — | — | — |
| Total *(in 1000 pounds)* | 248567 | 82954 | 78780 | ** | ** | — | — |
| **EMPLOYEES** *(number)* | 150000 | 150000 | 130000 | ** | ** | 135000 | 140000 |

S-10. Please report the following information regarding the number of warmwater shrimp farms in production, production capacity, production, and employees in the warmwater shrimp farms.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **FARMS IN PRODUCTION:** | | | | | | | |
| Extensive[1] *(hectares)* | | | | 154600 | 138195E | | |
| Semi-intensive[2] *(hectares)* | | | | | | | |
| Intensive[3] *(hectares)* | | | | | | | |
| Total *(hectares)* | | | | | | | |
| In Regulated/Restricted Coastal Areas[4] *(hectares)* | | | | 123680 | 110000E | | |
| Affected by water contamination or other tsunami related damage[5] *(hectares)* | | | | | 1500E | 1000E | 0E |
| **CAPACITY:** | | | | | | | |
| Average production capacity *(1000 Pounds)* | | | | | | | |
| In Regulated/Restricted Coastal Areas[1] *(1000 Pounds)* | | | | | | | |
| Affected by water contamination or other tsunami related damage[5] *(1000 Pounds)* | | | | | 4000E | 2500E | 0E |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(1000 Pounds)* | | | | | | 75115E | 77420E |
| Second harvest cycle *(1000 Pounds)* | | | | | | 149985E | 154580E |
| Total *(1000 Pounds)* | | | | | | 225100E | 232000E |
| **EMPLOYEES *(number)*** | | | | 150000 | 132500E | | |

[1] An overall stocking density not exceeding 30,000 post larval shrimp per hectare.
[2] An overall stocking density from 30,000 to 150,000 post larval shrimp per hectare.
[3] An overall stocking density in excess of 150,000 post larval shrimp per hectare.
[4] Provide the total number of warmwater shrimp farms located within specially designated areas subject to limitations on the production of post larval.
[5] Please describe "other" tsunami related damage. _____

[1] An overall stocking density not exceeding 30,000 post larval shrimp per hectare.

[2] An overall stocking density from 30,000 to 150,000 post larval shrimp per hectare.

3. An overall stocking density in excess of 150,000 post larval shrimp per hectare.

N.B. ***However, the above classifications are non relevant to the shrimp culture practices in India, as the Aquaculture Authority of India has clearly prescribed a stocking density of upto 60,000 post larvae per ha as extensive culture and upto 1,00,000 post larvae per ha under modified extensive culture. The figures provided in the chart under the head " Extensive" represents both extensive and modified extensive types of culture, as defined by the Aquaculture Authority, while under the head " In Regulated/ Restricted Coastal Areas", the figures represent the area under extensive culture only.***

[4] Provide the total number of warm water shrimp farms located within specially designated areas subject to limitations on the production of post larval.

[5] Please describe "other" tsunami related damage. **Breaches in the bunds, sluice gates, siltation, non availability of workers, technicians, post larval warmwater shrimp etc.**

* Farms following low-density culture (Extensive culture)

** The data reported in the first quarter represents the production during January to June. The crop begining in January-February is not fully harvested even in June as the crop pattern varies at different places. In fact, the first crop continues even up to August- September. Therefore, repeating the data for the second quarter will result in double counting.

# Infrastructure Damage

## India

| | Destroyed & Damaged (US $. in million)* | Cost to Rebuild/Repair (US$. in million)* | Time to Rebuild/Repair |
|---|---|---|---|
| **HIGHWAYS: (roads, bridges, culverts)** | TN: 127.63<br>K : 1.13<br>AP: 24.66<br>P : 5.43<br>A&N: 39.15 | TN: 127.63<br>K : 1.13<br>AP: 24.66<br>P : 5.43<br>A&N: 39.15 | 12 - 24 months |
| **Total** | 198.00 | 198.00 | |
| **ELECTRICAL SYSTEMS** | TN: 3.84<br>K : 9.05<br>AP: –<br>P : 1.58<br>A&N: 67.88 | TN: 3.84<br>K : 9.05<br>AP: –<br>P : 1.58<br>A&N: 67.88 | 6 – 12 months |
| **Total** | 82.35 | 82.35 | |
| **PORTS:** | | | |
| **Harbors and Landing Centers (including jetties)** | TN: 2.26<br>K : 2.96<br>AP: –<br>P : 0.05<br>A&N: -- | TN: 2.26<br>K : 2.96<br>AP: –<br>P : 0.05<br>A&N: – | 12 – 24 months |
| | 5.27 | 5.27 | |
| **Docks (Ports)** | TN: 39.60<br>K : 6.11<br>AP: –<br>P : –<br>A&N: 94.59 | TN: 39.60<br>K : 6.11<br>AP: --<br>P : –<br>A&N: 94.59 | 12 – 24 months |
| | 140.30 | 140.30 | |

| | | | |
|---|---|---|---|
| **Warehouses & Storage Sheds** | TN: 32.81<br>K : 4.30<br>AP: 12.22<br>P : 33.26<br>A&N: 110.43<br>———<br>193.02 | TN: 32.81<br>K : 4.30<br>AP: 12.22<br>P : 33.26<br>A&N: 110.43<br>———<br>193.02 | 12 – 24 months |
| **PATROL BOATS**** | 2 boats destroyed | Not known | NA |

**Notes:**

TN: Tamil Nadu
K: Kerala
AP: Andhra Pradesh
P: Pondicherry
A&N: Andaman & Nicobar Islands

NA: Not available

* Damages and costs were converted from rupees to dollars at a rate of 1 US$ = 44.19 Rs.

** Source: NACA update dated 16th March 2005. Monetary damage, cost of replacement, and time required to replace not known. Accepted

# MPEDA/SEAI SHRIMP FARM QUESTIONNAIRE (GIANT RIVER PRAWN)

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**

**(Investigations. Nos. 751-TA-28-29)**

*SHRIMP FARM ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** Explanations given in the footnote**

**Address :The Marine Products Export Development Authority,****
**P.B No. 4272,Panampilly Avenue**
**Kochi-682036, Kerala,India.**
**Ph;091-484-2311979, Fax;91-484-2313361, e.mail :mpeda@mpeda .nic.in**
**World Wide Web address http://www.mpeda.com**

**CERTIFICATION**

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

Kuruvilla Thomas, Director (Marketing)
*Name and Title of Authorized Official*

*Date* (20.09.2005)

*Signature of Authorized Official*

*Phone 91-484-2315098 Fax: 2313361*

*E-mail address: kuruvilla@mpeda.nic.in*

** *There is no national level Shrimp Farm association. The existing associations are highly localized, hence the relevant data for the questionnaire was collected through the field offices of MPEDA and presented herein*

S-1. Please report the States/Provinces in which warmwater shrimp farms are located and the quantities produced in each location during January-June 2004 and January-June 2005.

| State/Province of warm water scampi farms | Quantity *(1,000 pounds)* | |
|---|---|---|
| | January-June 2004 | January-June 2005 |
| TAMIL NADU | 3 | 39 |
| WEST BENGAL | 1030 | 2064 |
| ORISSA | – | -- |
| ANDHRA PRADESH | 26699 | 32991 |
| KERALA | – | 524 |
| KARNATAKA | – | 96 |
| MAHARASHTRA | 273 | 172 |
| GUJARAT | – | 6 |
| TOTAL | 28005 | 35892 |

S-2. (a) Describe the type and extent of damage caused to freshwater shrimp farms by the tsunami.

**There was no physical damage caused to freshwater shrimp farms by the tsunami.**

(b) Please describe the time and cost involved in repairing or reconstructing the damaged freshwater shrimp farms, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).

**Since there was no physical damage cuased to freshwater shrimp farms by the tsunami, this question does not apply.**

S-3. Please provide the quantity and replacement costs of post larval freshwater scampi and farmed freshwater scampi lost as a result of the tsunami.

**There was reportedly considerable seawater ingress through river openings into the sea. However there were no reports of physical loss of PLs or standing crop of freshwater scampi in any farm.**

| Post larval warmwater scampi | | Farmed warmwater scampi | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(number)* | Replacement costs *(1,000 dollars)* |
| Nil | Nil | Nil | Nil |

S-4. (a) How were the salinity levels of the freshwater shrimp farms affected by the tsunami?

☐ Increased ☐ Unchanged ☐ Decreased **This does not apply to freshwater scampi farms.**

(b) What percentage of freshwater scampi farms experienced increased salinity levels?
**0** percent

(c) How many hectares does this represent? **0** hectares

(d) Please describe how changes in salinity levels impacted the freshwater scampi being raised at the time of the tsunami.

**The Broodstock and juveniles in the wild in the estuaries appears to have been affected due to stress caused by increase in salinity. Due to ingression of saline water to the ground water, the quality of fresh water used for scampi farming also appears to have affected in some places.**

(e) Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the freshwater scampi farms.

**The stress caused by increased salinity level to Broodstock and juveniles affect performance in the hatcheries and their growth to some extent. The salinisation of ground water in some regions have also affected the quality of fresh water required for scampi farming.**

S-5. (a) Aside from changes in salinity levels, were freshwater scampi farms affected by any other adverse changes as a result of the tsunami?

☒ **No.** ☐ Yes, please describe the changes.

(b) What percentage of freshwater shrimp farms experienced such changes? **0 percent**

(c) What percentage of production does this represent? **0 percent**

(d) Please describe how these changes impacted the freshwater shrimp being raised at the time of the tsunami.

**There was no direct impact of tsunami on freshwater scampi farms. However the stressed Broodstock and juveniles in estuaries at the time of tsunami when salinity levels went up have affected farms' performance due to lower than expected growth rates and yields. Quality of ground water is also affected.**

(e) Please describe how these changes affect current and future production as well as any future expansions/improvements to the freshwater shrimp farms.

**The current production suffered and it is attributed largely to drought and outbreak of disease in freshwater shrimp growing areas in Andhra Pradesh. These phenomena were not experienced earlier though they are unrelated to tsunami. In view of these factors, the output from freshwater shrimp farms in current year is expected to go down significantly compared to 2004 and its effect is expected to impact 2006 output also to an extent.**

S-6. (a) Please provide the following information concerning the number of warmwater scampi farm employees displaced, injured, or killed in the tsunami.

Displaced: **None** Injured: **None** Killed: **None**

(b) What percentage of displaced or injured employees have returned to their jobs?
_____ percent **Not applicable in view of response to S-6 (a) above**

(c) Have the warmwater scampi farms been able to replace those employees lost as a result of the tsunami?

☐ No. ☐ Yes, please describe any difficulties in obtaining replacement labor.

**Not applicable in view of response to S-6 (a) above**

S-7. Are any warmwater scampi farms operating in specially designated areas subject to restrictions and regulations on the production of warmwater scampi (e.g., India's Coastal Regulation Zone)?

☒ No. ☐ Yes, please give the percentage of warmwater shrimp farms that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.

S-8. Since the tsunami, have warmwater shrimp farms experienced any difficulty in obtaining post larval freshwater scampi (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?

☒ No. ☐ Yes, please describe any difficulties.

**Since the farming was affected by drought and disease, there was lesser activity at farms and consequently lower demand for PLs.**

S-9. Since the tsunami, have you experienced any decline in the quality of post larval freshwater scampi available to your warmwater scampi farms?

☐ No. ☒ Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

**There was a general decline in quality of PLs. This led to lower than expected growth in farms and lower yields. As already mentioned, there were also other significant factors that inhibited growth and output of farms. The impact of these factors is expected to be felt through rest of the year and to some extent through next year as well.**

S-10. Please report the following information regarding the number of warmwater shrimp farms in production, production capacity, production, and employees in the warmwater shrimp farms.

| Scampi | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **FARMS IN PRODUCTION:** | | | | | | | |
| Extensive *(hectares)** | 41870 | 28920 | 32929 | ** | ** | 43289 | 45500 |
| Semi-intensive *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Intensive *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total *(hectares)* | 41870 | 28920 | 32929 | ** | ** | 43289 | 45500 |
| In Regulated/Restricted Coastal Areas *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Affected by water contamination or other tsunami related damage *(hectares)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| **CAPACITY:** | | | | | | | |
| Average production capacity (in 000 Pounds) | 92114 | 63624 | 72444 | ** | ** | 95235 | 1,00,000 |
| In Regulated/Restricted Coastal Areas (In 000 pounds) | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Affected by water contamination or other tsunami related damage *(in 000 pounds)* | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(in 000 pounds)* | **Only one crop with continuous harvest for scampi** | | | | | | |
| Second harvest cycle *(in 000 pounds)* | | | | | | | |
| Total *(in 000 pounds)* | 78914 | 28006 | 35893 | ** | ** | 64900 | 77350 |
| **EMPLOYEES *(number)*** | 42000 | 29000 | 33000 | ** | ** | 40000 | 42,000 |

* Generally extensive type of culture is practiced for scampi with low density stocking. In fact, freshwater prawn culture in the coastal states is a continuous process, with repeated stocking and harvest. Therefore, there is no specific crop pattern for scampi culture in India.

** The data reported in the first quarter represents the production during January to June. The crop beginning in January-February is not fully harvested even in June as the crop pattern varies at different places. In fact, the crop continues even up to October - November. Therefore, repeating the data for the second quarter will result in double counting

# ALL INDIA SHRIMP HATCHERIES ASSOCIATION QUESTIONNAIRE
# (BLACK TIGER)

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*HATCHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warm water shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** : **ALL INDIA SHRIMP HATCHERIES ASSOCIATION**

**Address** : **7 – 1 – 44, KIRLAMPUDI, VISAKHAPATNAM – 530 017**

**World Wide Web address :**

## CERTIFICATION

*I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.*

*By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)*

*I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.*

*M. SUDARSAN SWAMY*
*PRESIDENT – AISHA*
*Name and Title of Authorized Official*

6/08/05
*Date*

M.S.Swamy
*Signature of Authorized Official*

*91 – 891 – 2754828* *91 – 891 – 2754553*
*Phone* *Fax*

*santiraquatic@hotmail.com*
*E-mail address*

H-1. Please report the following information concerning the State/Province of the warm water shrimp hatcheries and the quantities each produced in January-June 2004 and January-June 2005.

| State/Province of the warm water Shrimp hatcheries | Quantity (in millions of seed) | |
|---|---|---|
| | January – June 2004 | January – June 2005 |
| ANDHRA PRADESH | 2713 | 2035 |
| TAMILA NADU / PONDICHERRY | 762 | 572 |
| KERALA | 293 | 220 |
| ORISSA | 75 | 57 |
| KARNATAKA | 59 | 45 |
| MAHARASHTRA | 3 | 0 |
| GOA | 5 | 5 |
| GUJARAT | 13 | 10 |
| WEST BENGAL | 43 | 33 |
| TOTAL: | 3966 | 2977 |

*Source: Aquaculture Authority of India Report 2004*

Note: It is assumed that for every Pound of farmed shrimp the seed required will be 26 numbers based on the following: (1) Average shrimp size 25 grams at harvest (2) survival rate is 65% at the farm.

H-2. Please list the States/Provinces where wild warm water shrimp Broodstock were harvested in January-June 2004 and January-June 2005.

| State/Province of wild warmwater shrimp Broodstock harvesting (Peneaus monodon) (number) | | |
|---|---|---|
| STATE | January – June 2004 | January – June 2005 |
| ANDHRA PRADESH | 54,000 | 48,000 |
| TAMILNADU/ PONDICHERRY | 23,000 | 17,000 |
| KERALA | 6,000 | 5,000 |
| ORISSA | 7,500 | 10,000 |
| ANDAMAN & NICOBAR ISLANDS | 5,000 | - |
| TOTAL: | 95,500 | 80,000 |

H-3. (a) Please report the following information concerning the warm water shrimp Broodstock purchased and/or imported in 2004 and projections of purchases and/or imports of Broodstock for 2005 and 2006.(without the Tsunami effect)

| Quantity *(number)* | | | | | |
|---|---|---|---|---|---|
| Warm water shrimp Broodstock purchased | | | Warm water shrimp Broodstock imported | | |
| 2004 | Projected 2005 | Projected 2006 | 2004 | Projected 2005 | Projected 2006 |
| 200,000 | 150,000 | 175,000 | NIL | 600 | 1200 |

The government has issued one license in the year 2004 on trial basis to import Broodstock (Penaeus monodon) from Myanmar.

(b) Discuss any restrictions on the importation of warm water shrimp Broodstock. Explain how such restrictions affect a hatchery's purchasing decisions.

Importation of any aquatic species into India has to necessarily obtain the approval and permit from Exotic Species committee constituted by the Ministry of Agriculture, Government of India. Applications made to this Exotic Committee have to be forwarded by the respective State Departments of Fishery to the Ministry of Agriculture. The Exotic Committee would examine all the import procedures concerning the species either it is exotic or endemic, whether imported from prevailing disease affected areas etc. Under this situation, the Ministry of Agriculture does not favourably consider import of Black Tiger Shrimp Broodstock from other countries for reasons that in the neighbouring South East Asian countries, the prevalence of many viral disease affecting Shrimp is very common. These countries also do not have sufficient quantities of Broodstock from natural source and that domesticated Broodstock for Black Tiger is not available. Further, these countries where Black Tiger Broodstock is available, was also badly affected by tsunami.

H-4. (a) Describe the type and extent of damage caused to warmwater shrimp hatcheries by the tsunami.

The infrastructural damaged for the hatcheries includes.

a) The sea water Intake system.
b) Pump Houses mainly located on the seashore.
c) Sea Water Pipeline in the hatcheries & Water Filtration Systems..
d) Structural damage for the sheds/Living facilities.
e) Diesel Generators
f) Electrical Transformers.
g) Compound wall
h) Vehicles parked within the hatchery premises.

Warm Water Shrimp Hatcheries were badly affected by the following factors :

1) Displacement of local workers
2) Workers not willing to be employed in the Hatchery – fearing tsunami can affect them any time because of repeated after shock at Indonesia & Andaman & Nicobar Islands.
3) Broodstocks usually obtained from fishermen became unavailable due to no fishermen daring to go to sea to catch Broodstock fearing tsunami.
4) The fear of tsunami has gripped the owners' employees and even nearby habitants to the hatcheries to vacate and move away to the extent of even abandoning the hatcheries.
5) Due to damage caused to Boats, Crafts & Gear – fishermen could not venture into sea for fishing resulting in non-availability of Broodstock.

(b) Please describe the time and cost involved in repairing or reconstructing the damaged warm water shrimp hatcheries, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).

Over 80% of the hatcheries were not insured. No insurance is available for hatchery livestock. Small hatcheries could not come out of the loss caused by Tsunami. No aid or financial assistance or restructuring grant was made available to these damaged hatcheries for repair and start-up. Financial institutions are not coming forward to fund for such repairs and replacements since they feel the investment on Fixed Assets created in these tsunami affected areas are too risky. These financial institutions insist on heavy collateral security, which is neither feasible nor available with the borrowers.

H-5. (a) Have hatcheries increased or decreased production of post larval warm water shrimp since the tsunami?

[ ] Increased [ ] Unchanged [√] Decreased

(b) Please describe any limitations to increasing post larval warm water shrimp production at existing hatcheries.

Limitations as regards to capacity available, non-availability of additional manpower and willingness to work in hatcheries, non-availability of Broodstock even if hatcheries wanted to attempt hatchery production have become limitations to increasing PL Shrimp production in existing hatcheries.

December/January is the main season for Broodstock as the peak demand for seeds is the month of February/March when the season commences. Time was lost due to non-availability of Broodstock to meet the heavy demand of seeds due to lack of fishing – resulting in cancellation of contracts, loss of stock and also sales opportunity.

H-6. Please provide the quantity and replacement costs of warm water shrimp Broodstock and nauplii lost as a result of the tsunami.

| Warmwater shrimp Broodstock | | Nauplii | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(millions)* | Replacement costs *(1,000 dollars)* |
| 42,000 | $4,600 | 12,600 | $2,800 |
| | | | |
| | | | |

H-7. (a) How were the salinity levels of the warm water shrimp hatcheries affected by the tsunami?

[√] Increased [ ] Unchanged [ ] Decreased

(b) What percentage of warmwater shrimp hatcheries experienced increased salinity levels? 53 percent.

(c) What percentage of production does this represent? 53 percent

(d) Please describe how changes in salinity levels impacted the warmwater shrimp Broodstock and nauplii being raised at the time of the tsunami.

Hatcheries who are holding stock of Shrimp Broodstock and nauplii and PLs were in limited quantities (due to initial commencement of the season), at the time of tsunami got flooded with water carrying large amounts of Sand & mud and getting deposited in the hatchery facilities–leading to mass mortality of holding stock. Further, the salinity levels have gone upto 35 to 36 ppt leading to instantaneous death of the holding stock where preferred salinity is 28 to 32 ppt and normally during the December/January months the ocean salinity is about 25 – 28 ppt.

(e) Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the warmwater shrimp hatcheries?

For hatchery production, the biological requirement of seawater salinity should range from 28 - 32 ppt for Broodstock performance. Any lower or higher salinity will have effect on the Broodstocks' ability to spawn the eggs and its hatchability rate. While it will still be acceptable if salinity range is around 35 ppt, at higher salinity more than 35 ppt – it will affect the Broodstock which results in spawning of immature eggs or non-hatchability.

On the question to use freshwater to dilute the high strength sea water – local restrictions enforced by Villages Councils to tap ground water. Since fresh water from underground sources are very scarce, there are limitations for hatcheries to utilize this water as they have been banned from using ground water other for than potable purposes by the local Village Councils. In the absence of Municipal water supplied through pipes, which never existed, the chances of bringing water by water tankers also does not exist since villagers obstruct using fresh water for saline water dilution, which is respected and followed for the benefit of local livelihood.
Sub-surface freshwater wherever available in Hatcheries for potable purposes have become saline to as high as 10 to 15 ppt following tsunami – becoming totally unpotable.

The changes to salinity levels has effected the current production as the desired salinity ranges from 28 to 32 ppt – It is too early to predict the effect on the future production performance of the hatcheries.

H-8. (a) Aside from changes in salinity levels, were warmwater shrimp hatcheries affected by any other adverse changes as a result of the tsunami?

[ ] No. [√] Yes, please describe the changes.

Luminous bacterial infestation increased in all the hatcheries leading to mass mortality from nauplii stage, conversion problems and low survivals. Due to diseases and conversion problems at various larval stages have ended up in heavy loss and closure of hatcheries.

(b) What percentage of warmwater shrimp hatcheries experienced such changes? 46 percent

(c) What percentage of production does this represent? 50 percent

(d) Please describe how these changes impacted the warmwater shrimp Broodstock and nauplii being raised at the time of the tsunami.

Hatcheries who are holding stock of Shrimp Broodstock and nauplii and PLs were in limited qualities (due to initial commencement of the season), at the time of tsunami got flooded with water carrying large amounts of Sand & mud and getting deposited in the hatchery facilities– leading to mass mortality of holding stock. Further, the salinity levels have gone upto 38 & even 40 in some cases leading to instantaneous death of the holding stock where preferred salinity is between 28 to 32 ppt.

(e) Please describe how these changes affect current and future production as well as any future expansions/improvements to the warmwater shrimp hatcheries.
The alteration in the physics – chemical parameters of seawater had a severe affect on the water quality, optimum performance/non performance of the Broodstock, increased microbial infestation (bacteria, virus and parasites). Increased viral infestation in the Tiger Broodstock had badly affected the hatchery production in short term. The influence of the above said parameters on the seawater quality and Broodstock may have a long term detrimental affect in regard to Tiger population dynamics, maturation and fecundity. Secondly, the performance of the hatcheries are directly dependent on these parameters for cost effective production.

H-9. (a) Please provide the following information concerning the number of warmwater shrimp hatchery employees displaced, injured, or killed in the tsunami.
Displaced: 1000 Injured: 250 Killed: 10

(b) What percentage of displaced or injured employees have returned to their jobs?
25 percent

(c) Have the warmwater shrimp hatcheries been able to replace those employees lost as a result of the tsunami?

[ ] No. [√] Yes, please describe any difficulties in obtaining replacement labor.

Difficulty of untrained manpower has lead to lower productivity, risk of bio-security measures & poor quality of PL produced etc.

H-10. (a) Are any warmwater shrimp hatcheries operating in specially designated areas subject to restrictions and regulations on the production of post larval warmwater shrimp?

[√] No. [ ] Yes, please give the percentage of warmwater shrimp hatcheries that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.

No Specifically designated areas.

H-11. Since the tsunami, have hatcheries experienced any difficulty in obtaining warmwater shrimp Broodstock. (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?

[ ] No. [√] Yes, please describe any difficulties.

There was no fishing for the first six months after Tsunami as fishermen and their families were displaced and were awaiting compensation. During this period the Broodstock requirement is maximum due to the oncoming peak season. Boats and fishing trawlers were damaged and it will take atleast 1 – 1½ years for repairing or replacement. Harbour infrastructure and boat landing facilities were also damaged.

H-12. Has the average yield of post larval warmwater shrimp changed since the tsunami?

[ ] No. [ ] Yes, please describe any changes (i.e., present yield per one million eggs as opposed to pre-tsunami yield.

It is too early to comment as this stage and will have concrete information & evidence in the months ahead. Therefore, the fecundity which is lower needs to be observed for a longer period.

H-13. Since the tsunami, have you experienced any decline in the quality of warmwater shrimp Broodstock available to your hatcheries?

[ ] No. [√] Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

1) Broodstocks infected with multiple disease
2) No quality Broodstock available
3) Broodstock not responding to maturation
4) At many instances, eggs are spawned underdeveloped
5) Quantity of eggs reduced per Broodstock
6) Hatching rate reduced to average 50% compared with 90% earlier
7) Nauplii conversion is very poor
8) Larvae not molting frequently showing poor signs of growth & death and unable to find reasons.
9) Farmers selection process of obtaining high health PL has put restrictions on hatcheries' limitations on availability of high health PL.
10) Total shift in Broodstock supply situation. Even after 6 months, Broodstock availability has not improved and becoming scarce day by day.

*Certain frozen warmwater shrimp and prawns from India and Thailand (Invs. Nos. 751-TA-28-29)*

H-14. Please report the following information regarding the number of warm water shrimp hatcheries, production capacity, production, and employees in the hatcheries.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June. | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **HATCHERIES:** | | | | | | | |
| Total (number) | 280 | 280 | 150 | 280 | 180 | 180 | 200 |
| In Regulated/Restricted Coastal Areas[1] (number) | 280 | 280 | 150 | 280 | 180 | 180 | 200 |
| Affected by water contamination or other tsunami related damage[2] *(number)* | 0 | 0 | 130 | 0 | 100 | 100 | 75 |
| **CAPACITY: *** | | | | | | | |
| Average production capacity *(million post larval)* | 8400 | 3360 | 3360 | 3360 | 3360 | 8400 | 8400 |
| In Regulated/Restricted Coastal Areas[1] *(million post larval)* | 8400 | 3360 | 3360 | 3360 | 3360 | 8400 | 8400 |
| Affected by water contamination or other tsunami related damage[2] *(million post larval)* | - | - | 1560 | 0 | 1200 | 3000 | 2400 |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(million post larval)* | 3966 | 2380 | 1787 | 1586 | 1190 | 2977 | 3000 |
| Second harvest cycle *(million post larval)* ** | 2640 | - | - | - | - | 1191 | 1200 |
| Total *(million post larval)* | 6606 | 2380 | 1787 | 1586 | 1190 | 4168 | 4200 |
| **EMPLOYEES** *(number)* **(45 / Hatchery)** | 7000 | 7000 | 3750 | 7000 | 4500 | 4500 | 5000 |

1 Provide the total number of warmwater shrimp hatcheries located within specially designated areas subject to limitations o production of post larval warmwater shrimp.
2 Please describe "other" tsunami related damage. Refer to H-4 (a)

# ALL INDIA SHRIMP HATCHERIES ASSOCIATION QUESTIONNAIRE
# (GIANT RIVER PRAWN)

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
(Investigations. Nos. 751-TA-28-29)

*HATCHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warm water shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** : **ALL INDIA SHRIMP HATCHERIES ASSOCIATION (AISHA)**

**Address** : **7 – 1 – 44, KIRLAMPUDI, VISAKHAPATNAM, ANDHRA PRADESH – 530 017, INDIA.**

**World Wide Web address :**

## CERTIFICATION

*I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.*

*By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)*

*I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or for internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.*

*M. SUDARSAN SWAMY*
*PRESIDENT – AISHA*
*Name and Title of Authorized Official*

*21st September, 2005.*
*Date*

M.S. Swamy
*Signature of Authorized Official*

*91 – 891 – 2754828* *91 – 891 – 2754553*
*Phone* *Fax*

*santiraquatic@hotmail.com*
*E-mail address*

*Certain frozen warmwater shrimp and prawns from India and Thailand (Invs. Nos. 751-TA-28-29)*

H-1. Please report the following information concerning the State/Province of the Fresh water shrimp hatcheries and the quantities each produced in January-June 2004 and January-June 2005.

| State/Province of Scampi (Freshwater Shrimp) hatcheries | Quantity (in millions of seed) | |
|---|---|---|
| | January – June 2004 | January – June 2005 |
| ANDHRA PRADESH | 432 | 352 |
| TAMILA NADU / PONDICHERRY | 138 | 112 |
| KERALA | 80 | 74 |
| TOTAL: | 650 | 538 |

*Source: Aquaculture Authority of India Report 2004*

Note: (1) Average shrimp size 60 grams at harvest (2) survival rate is 60% at the farm.

H-2. Please list the States/Provinces where wild Fresh water shrimp Broodstock were harvested in January-June 2004 and January-June 2005.

| State/Province of wild Freshwater shrimp Broodstock harvesting (Macrobrachium rosenbergii) (number) | | |
|---|---|---|
| STATE | January – June 2004 | January – June 2005 |
| ANDHRA PRADESH | 40,000 | 35,000 |
| TAMILNADU/ PONDICHERRY | 12,250 | 10,370 |
| KERALA | 7,500 | 6,850 |
| TOTAL: | 59,750 | 52,220 |

H-3. (a) Please report the following information concerning the Fresh water shrimp Broodstock purchased and/or imported in 2004 and projections of purchases and/or imports of Broodstock for 2005 and 2006. (without the Tsunami effect)

| Quantity *(number)* | | | | | |
|---|---|---|---|---|---|
| Fresh water shrimp Broodstock purchased | | | Fresh water shrimp Broodstock imported | | |
| 2004 | Projected 2005 | Projected 2006 | 2004 | Projected 2005 | Projected 2006 |
| 1,10,000 | 85,000 | 1,02,000 | NIL | NIL | NIL |

(b) Discuss any restrictions on the importation of Fresh water shrimp Broodstock. Explain how such restrictions affect a hatchery's purchasing decisions.

**Importation of any aquatic species into India has to necessarily obtain the approval and permit from Exotic Species committee constituted by the Ministry of Agriculture, Government of India. Applications made to this Exotic Committee have to be forwarded by the respective State Departments of Fishery to the Ministry of Agriculture. The Exotic Committee would examine all the import procedures concerning the species either it is exotic or endemic, whether imported from prevailing disease affected areas etc. Under this situation, the Ministry of Agriculture does not favorably consider import of scampi Shrimp Broodstock from other countries for reasons that in the neighboring South East Asian countries, the prevalence of many viral diseases affecting Shrimp is very common.**

H-4. (a) Describe the type and extent of damage caused to warmwater shrimp hatcheries by the tsunami.

**Due to ingress of large amounts of seawater into estuaries and river mouths due to tsunami, the scampi Broodstock was adversely affected.**

*Certain frozen warm water shrimp and prawns from India and Thailand (Invs. Nos. 751-TA-28-29)*

(b) Please describe the time and cost involved in repairing or reconstructing the damaged Fresh water shrimp hatcheries, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).

**Over 80% of the hatcheries were not insured. No insurance is available for hatchery livestock. Small hatcheries could not come out of the loss caused by Tsunami. No aid or financial assistance or restructuring grant was made available to these damaged hatcheries for repair and start-up. Financial institutions are not coming forward to fund for such repairs and replacements since they feel the investment on Fixed Assets created in these tsunami affected areas are too risky. These financial institutions insist on heavy collateral security, which is neither feasible nor available with the borrowers.**

H-5. (a) Have hatcheries increased or decreased production of post larval Fresh water shrimp since the tsunami?

☐ Increased ☐ Unchanged ☐ • Decreased

(b) Please describe any limitations to increasing post larval Fresh water shrimp production at existing hatcheries.

**Limitations as regards to capacity available and non-availability of Broodstock even if hatcheries wanted to attempt hatchery production have become limitations to increasing PL Shrimp (Scampi seed) production in existing hatcheries.**

**First quarter of the year is the main season for Broodstock as the peak demand for seeds is the month of April and onwards when full season commences. Time was lost due to non- availability of Broodstock primarily due to impact of tsunami which was compounded by drought and disease, to meet the heavy demand of seeds.**

H-6. Please provide the quantity and replacement costs of Fresh water shrimp Broodstock and zoea lost as a result of the tsunami.

| Freshwater shrimp Broodstock | | Zoea | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(millions)* | Replacement costs *(1,000 dollars)* |
| 25,000 | 14.2 | 500 | 57.0 |
| | | | |

H-7. (a) How were the salinity levels of the Fresh water shrimp hatcheries affected by the tsunami?

☐ √ Increased ☐ Unchanged ☐ Decreased

(b) What percentage of Freshwater shrimp hatcheries experienced increased salinity levels? **20 percent**

(c) What percentage of production does this represent? **20 percent**

(d) Please describe how changes in salinity levels impacted the Freshwater shrimp Broodstock and zoea being raised at the time of the tsunami.

*Certain frozen warm water shrimp and prawns from India and Thailand (Invs. Nos. 751-TA-28-29)*

**Bacterial infestation and white muscle disease increased in all the hatcheries leading to mass mortality from zoea stage, conversion problems and low survivals. Due to diseases and conversion problems at various larval stages have ended up in heavy loss and closure of hatcheries.**

(e) Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the Freshwater shrimp hatcheries?

**The salinity levels do not apply directly to freshwater shrimp hatcheries. They will however affect the breeding cycle of freshwater shrimp and thus affect the availability of Broodstock.**

H-8. (a) Aside from changes in salinity levels, were Freshwater shrimp hatcheries affected by any other adverse changes as a result of the tsunami?

[ ] No. [√] Yes, please describe the changes.

**Bacterial infestation increased in all the hatcheries leading to mass mortality from zoea stage, conversion problems and low survivals. Due to diseases and conversion problems at various larval stages have ended up in heavy loss and closure of hatcheries.**

(b) What percentage of Freshwater shrimp hatcheries experienced such changes? **20 percent**

(c) What percentage of production does this represent? **20 percent**

(d) Please describe how these changes impacted the Freshwater shrimp Broodstock and zoea being raised at the time of the tsunami.

**The salinity levels have gone up leading to unhealthy Broodstock.**

(e) Please describe how these changes affect current and future production as well as any future expansions/improvements to the Freshwater shrimp hatcheries.

**The alteration in the physical and chemical parameters of seawater had a severe affect on the estuarine water quality, optimum performance/non performance of the Broodstock, increased microbial infestation (bacteria, virus and parasites). Increased viral infestation in scampi Broodstock had affected the hatchery production in short term. These problems were compounded by drought. The performance of hatcheries is directly dependent on these parameters for cost effective production.**

H-9. (a) Please provide the following information concerning the number of Freshwater shrimp hatchery employees displaced, injured, or killed in the tsunami.

**Displaced: 50** **Injured: 10** **Killed: none**

(b) What percentage of displaced or injured employees have returned to their jobs?

**100 percent**

(c) Have the Freshwater shrimp hatcheries been able to replace those employees lost as a result of the tsunami?

[ ] No. [√] Yes, please describe any difficulties in obtaining replacement labor.

H-10. (a) Are any Freshwater shrimp hatcheries operating in specially designated areas subject to restrictions and regulations on the production of post larval Freshwater shrimp?

[√] No. [ ] Yes, please give the percentage of Freshwater shrimp hatcheries that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.

**No Specifically designated areas.**

H-11. Since the tsunami, have hatcheries experienced any difficulty in obtaining Freshwater shrimp Broodstock. (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?

[ ] No. [√] Yes, please describe any difficulties.

**There was non-availability of quality Broodstock and also the numbers dwindled coupled with draught conditions as a result of which farming operations were progressively scaled down by the middle of the year.**

H-12. Has the average yield of post larval Freshwater shrimp changed since the tsunami?

[ ] No. [ ] Yes, please describe any changes (i.e., present yield per one million eggs as opposed to pre-tsunami yield.

**The fecundity which is lower needs to be observed for a longer period.**

H-13. Since the tsunami, have you experienced any decline in the quality of Freshwater shrimp Broodstock available to your hatcheries?

[ ] No. [√] Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

1) **Broodstocks infected with multiple disease**
2) **At many instances, eggs(zoea) are released underdeveloped.**
3) **Quantity of zoea reduced per Broodstock**
4) **Zoea conversion is very poor**
5) **Larvae not molting and frequently showing poor growth for unknown reasons.**
6) **Farmer's selection process of obtaining high health PL has put restrictions on hatcheries' limitations on availability of high health PL.**
10) **Total shift in Broodstock supply situation. Even after 6 months, Broodstock availability has not improved and becoming scarce day by day.**

H-14. Please report the following information regarding the number of warm water shrimp hatcheries, production capacity, production, and employees in the hatcheries.

| Item | 2004 | Jan.-Mar. | | Apr.-June. | | Projections | |
|---|---|---|---|---|---|---|---|
| | | 2004 | 2005 | 2004 | 2005 | 2005 | 2006 |
| **HATCHERIES:** | | | | | | | |
| Total (number) | 56 | 56 | 45 | 56 | 50 | 50 | 50 |
| In Regulated/Restricted Coastal Areas[1] (number) | 56 | 56 | 45 | 56 | 50 | 50 | 50 |
| Affected by water contamination or other tsunami related damage[2] *(number)* | 0 | 0 | 11 | 0 | 6 | 6 | 6 |
| **CAPACITY:** * | | | | | | | |
| Average production capacity *(million post larval)* | 1680 | 336 | 270 | 336 | 300 | 1500 | 1500 |
| In Regulated/Restricted Coastal Areas[1] *(million post larval)* | 1680 | 336 | 270 | 336 | 300 | 1500 | 1500 |
| Affected by water contamination or other tsunami related damage[2] *(million post larval)* | 0 | 0 | 330 | 0 | 180 | 180 | 180 |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(million post larval)* | 651 | 130 | 180 | 521 | 358 | 538 | 440 |
| Second harvest cycle *(million post larval)* ** | 434 | 0 | 0 | 0 | 0 | 352 | 560 |
| Total *(million post larval)* | 1085 | 130 | 180 | 521 | 358 | 890 | 1000 |
| **EMPLOYEES** *(number)* **(25 / Hatchery)** | 1400 | 1400 | 1125 | 1400 | 1250 | 1250 | 1250 |

1 Provide the total number of warm water shrimp hatcheries located within specially designated areas subject to limitations o production of post larval warm water shrimp.
2 Please describe "other" tsunami related damage. Refer to H-4 (a)

# NATIONAL FISHERIES ASSOCIATION OF THAILAND QUESTIONNAIRE

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*FISHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** National Fisheries Association of Thailand

**Address** 96/67-68 Moo 9 Rama II Road (Thonburi-Pakthor), Bangmod, Jomthong,

Bangkok 10150 Thailand

**World Wide Web address** www.thaifishery.or.th

## CERTIFICATION

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

Mr. Prasant Silphiphat / Chairman
*Name and Title of Authorized Official*

05/08/2005
*Date*

*Signature of Authorized Official*

(66-2) 452-0571-2
*Phone*

(66-2) 452-0573
*Fax*

nfat@thaifishery.or.th
*E-mail address*

F:/ 032758/ pv

F-1. Describe the type and extent of the tsunami damage caused to fishing boats and gear (nets, motors, etc.). Explain how long it will take to repair or replace the damaged and destroyed boats and gear. Describe any barriers to the fishermen repairing or replacing their boats and gear (lack of finances, scarcity of repair/replacement materials or qualified craftsmen, etc.).

The Department of Fisheries reported that the giant wave, tsunami, caused damages to 7,555 fishing boats, while 2,682 fishing boats were missing; and caused damages to 7,774 fishing gears, while 2,463 fishing gears were missing.

Although more than 1,000 destroyed/damaged boats equipped with fishing gears have been rebuilt/repaired, most of the fishermen are still suffering from lack of fishing boats and gears, as, in fact, an extremely large amount 10,237 fishing boats and gears were affected by the tsunami. Even though the government and many organizations have been cooperative in remedying the affected fishermen, such remedies are not sufficient to cure the extensive damages caused by the tsunami to the fishermen and their families, e.g. damages to/loss of houses, properties, and fishing boats and gears. Particularly the medium size fishing boats, although some of them have been rebuilt/repaired, the fishermen, who own the boats, still lack of fishing gears due to the high price of new fishing gears. Thus, it seems impossible for the fishermen, who are poor and already overwhelmed with debts, to get loans/credit facilities from any sources in order to purchase/procure new fishing equipment and to be used as a fund for continuing their occupation. The lack of property to be used for securing repayments of loans/credit facilities is also a problem for the fishermen in obtaining loans/credit facilities.

For some fishermen, who own small size boats, even though they have received some financial assistance from the government, many of them remain unable to continue their occupation due to insufficiency of the fund received. Many fishermen changed their occupation with expectation that they would earn enough income for living and then have enough money to purchase new fishing boat and gears, as well as boat motor, oil, and other fishing equipment. However, such attempt has not been successful as expected, as price of the new fishing boats and gears, motor, oil, and other fishing accessories are getting higher. This caused many fishermen to eventually

quit their fishing occupation.

F-2. Please describe any impediments to non-local warmwater shrimp fishermen operating in areas affected by the tsunami.

No impediment because there is no non-local warmwater shrimp fishermen operating in the tsunami affected areas.

F-3. Since the tsunami, have the warmwater shrimp fishermen in the areas affected by the tsunami experienced any changes in sea catch per-boat, per-voyage?

☐ No ☒ Yes. Please describe the changes in sea catch per-boat, per-voyage.

Since the tsunami, it appears the decrease in quantity of shrimp caught due to the change of marine conditions, as well as the excessive decrease in numbers of fishing boats and gears , and the decrease in numbers of fishing areas resulting from the change of marine environment caused by the tsunami.

F-4. Please report the following information regarding the impact of the tsunami on warmwater shrimp fishermen:

| Item | Pre-tsunami | Killed | Injured | Displaced |
|---|---|---|---|---|
| **FISHERMEN** *(number)* | 47,537 | | | |
| | | | | |
| **Item** | **Pre-tsunami** | **Killed** | **Damaged** | **Destroyed*** |
| **BOATS AND MOTORS:** | | | | |
| Total *(number)* | 17,254 | - | 7,555 | 2,682 |
| Replacement cost *(1,000 dollars)* | - | - | - | 6,501.02 |
| Repair cost *(1,000 dollars)* | - | - | 3,905.51 | - |
| **FISHING GEARS:** | | | | |
| Total *(number)* | 17,254 | - | 7,774 | 2,463 |
| Total *(square meters)* | - | - | - | - |
| Replacement cost *(1,000 dollars)* | - | - | - | 6,157.5 |
| Repair cost *(1,000 dollars)* | - | - | 9,717.50 | - |
| **MOTORS:** | - | - | - | - |
| Total *(number)* | - | - | - | - |
| Replacement cost *(1,000 dollars)* | - | - | - | - |
| Repair cost *(1,000 dollars)* | - | - | - | - |

Source: Department of Fisheries

Remarks (*): The "Destroyed" column represents "missing" fishing boats, boat motors, and fishing gear.

F-5. Please report the following information regarding the warmwater shrimp and broodstock catch, boats, fishing gear (nets), and fishermen.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **PRODUCTION:** | | | | | | | |
| Warmwater shrimp catch *(1,000 pounds)* | 173,102.98 | 43,210 | 31,090 | 43,210 | 35,235 | 143,299 | 165,819 |
| Broodstock catch *(1,000 pounds)** | 55,115 | 28,659 | 8,818 | 17,636 | 8,818 | 22,046 | 17,636 |
| Total | | | | | | | |
| **BOATS** *(number)* | 57,344 | 57,344 | 47,107 | 57,344 | 48,107 | 48,607 | 50,107 |
| **FISHING GEAR:** | | | | | | | |
| Nets (Fishing gears) *(number)* | 58,500 | 58,500 | 48,263 | 58,500 | 49,263 | 49,763 | 51,263 |
| Nets *(square meters)* | - | - | - | - | - | - | - |
| **FISHERMEN** *(number)* | 168,140 | 168,140 | 157,903 | 168,140 | 158,903 | 159,403 | 160,903 |

Source: Department of Fisheries

Remarks (*): As raising the black tiger nauplii and postlarva in respective hatchery and grow-out pond causes more problems (e.g. easy to get diseased and infected) to the farmer than raising vannamai, the farmers prefer to raise vanamai. In other words, the numbers of black tiger broodstock caught have been decreasing due to the decrease of demand of black tiger shrimp hatching and farming.

# THAI SHRIMP ASSOCIATION SHRIMP FARM ASSOCIATION QUESTIONNAIRE

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*SHRIMP FARM ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

The information called for in these questions is for use by the United States International Trade Commission in connection with its changed circumstances reviews concerning certain frozen warmwater shrimp and prawns from India and Thailand (invs. Nos. 751-TA-28-29). The information requested in the questions is requested under the authority of the Tariff Act of 1930, title VII.

**Name of Association** Thai Shrimp Association

**Address** No. 193/43 Lake Rajada Office Complex, 12th Floor, Ratchadapisek Road, Klongtoey, Bangkok 10110, Thailand

**World Wide Web address** _____

## CERTIFICATION

***I certify that the information herein supplied in response to these questions is complete and correct to the best of my knowledge and belief and understand that the information submitted is subject to audit and verification by the Commission.***

***By signing this certification I also grant consent for the Commission, and its employees and contract personnel, to use the information provided in this questionnaire and throughout these investigations in any other import-injury investigations conducted by the Commission on the same or similar merchandise. (If you do not consent to such use, please note the certification accordingly.)***

***I acknowledge that information submitted in this questionnaire response and throughout these investigations may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of these investigations or related proceedings for which this information is submitted, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. I understand that all contract personnel will sign non-disclosure agreements.***

Mr. Somsak Paneetatavasai / President
*Name and Title of Authorized Official*

*Signature of Authorized Official*

August 11, 2005
*Date*

(66-2) 661-8213-7 (66-2) 661-8196
*Phone* *Fax*

thshrimp@escoms.com
*E-mail address*

Thai Shrimp Association

S-1. Please report the States/Provinces in which warmwater shrimp farms are located and the quantities produced in each location during January-June 2004 and January-June 2005.

| State/Province of warmwater shrimp farms | Quantity *(1,000 pounds)* | |
|---|---|---|
| | January-June 2004 | January-June 2005 |
| Phuket | 5,796 | 4,227 |
| Phang-nga | 20,516 | 12,914 |
| Krabi | 15,859 | 11,585 |
| Ranong | 5,551 | 4,026 |
| Trang | 14,366 | 10,493 |
| Satun | 8,254 | 6,029 |
| Total Six Provinces | 70,293 | 52,273 |
| Other Provinces | 241,816 | 176,665 |
| Grand Total | 312,109 | 227,939 |

Source : Department of Fisheries, Thailand.

S-2. (a) Describe the type and extent of damage caused to warmwater shrimp farms by the tsunami.

A few farms in Phuket that are relatively close to the shore were directly affected by the tsunami, due to flooding, causing destabilization to alkaline and pH levels. However, this was limited occurrence, as most farms are far enough from the affected shoreline, even in Phuket and Phang-nga, to escape damage. The farm business was ultimately indirectly impacted by the tsunami because of the reduced supply of nauplii/fry from hatcheries/nurseries necessary to produce adult shrimp.

(b) Please describe the time and cost involved in repairing or reconstructing the damaged warmwater shrimp farms, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).

Not applicable – no structural damage or crops lost due to structural damage. There was some flooding and water contamination in Phuket, as discussed above, which resulted in loss of crops.

S-3. Please provide the quantity and replacement costs of post larval warmwater shrimp and farmed warmwater shrimp lost as a result of the tsunami.

| Post larval warmwater shrimp | | Farmed warmwater shrimp | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(number)* | Replacement costs *(1,000 dollars)* |
| N/A | N/A | N/A | N/A |
| | | | |
| Because the effect on farms was relatively limited, as discussed above, there are no data collected for this type of loss at the farms. | | | |
| | | | |

S-4. (a) How were the salinity levels of the warmwater shrimp farms affected by the tsunami?

☐ Increased ☒ Unchanged ☐ Decreased

(b) What percentage of warmwater shrimp farms experienced increased salinity levels?
Not applicable percent

(c) How many hectares does this represent? Not applicable hectares

(d) Please describe how changes in salinity levels impacted the warmwater shrimp being raised at the time of the tsunami.

Not applicable

(e) Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the warmwater shrimp farms.

Not applicable

S-5. (a) Aside from changes in salinity levels, were warmwater shrimp farms affected by any other adverse changes as a result of the tsunami?

☐ No. x☐ Yes, please describe the changes.

As discussed above, some farms experienced flooding and, in turn, unstable alkaline and pH levels.

(b) What percentage of warmwater shrimp farms experienced such changes?

Not quantified, but probably less than 1 percent.

(c) What percentage of production does this represent?

Not quantified.

(d) Please describe how these changes impacted the warmwater shrimp being raised at the time of the tsunami.

The shrimp that was in the flooded waters died.

(e) Please describe how these changes affect current and future production as well as any future expansions/improvements to the warmwater shrimp farms.

Not applicable

S-6. (a) Please provide the following information concerning the number of warmwater shrimp farm employees displaced, injured, or killed in the tsunami.

Displaced: N/A Injured: N/A Killed: N/A

(b) What percentage of displaced or injured employees have returned to their jobs?

N/A percent

(c) Have the warmwater shrimp farms been able to replace those employees lost as a result of the tsunami?

☒ No. ☐ Yes, please describe any difficulties in obtaining replacement labor.

Not applicable – however a limited number of farms in Phuket did experience some flooding damage as a result of rising water levels. These farms are located much closer to the water.

S-7. Are any warmwater shrimp farms operating in specially designated areas subject to restrictions and regulations on the production of warmwater shrimp (e.g., India's Coastal Regulation Zone)?

☐ No. ☒ Yes, please give the percentage of warmwater shrimp farms that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.

By virtue of Section 9 of the Enhancement and Conservation of National Environment Quality Act B.E. 2535 (1992), the Cabinet rendered resolution on July 7, 1998, that farming black tiger shrimp may only be engaged in specific areas set by the Governor of each province. Basically, provinces where they are not adjacent to the sea and/or do not have seawater access into their areas may not engage in the black tiger shrimp farming. On the other hands, other provinces situated on the contrary circumstances may engage in the black tiger shrimp farming, however, only in area where there is accessible water way of seawater. Out of 76 provinces, 49 provinces have been designated as the restricted areas where black tiger shrimp farming is not allowed, and 27 provinces are allowed by the announcement of the Governors for black tiger shrimp farming. All six (6) provinces affected by the tsunami, i.e., Phuket, Phang-nga, Krabi, Ranong, Trang, and Satun are the provinces allowed for black tiger shrimp farming. This restriction applies to-date and only to black tiger shrimp farming.

There is only limited impact of tsunami to black tiger shrimp farms in the said six (6) provinces.

S-8. Since the tsunami, have warmwater shrimp farms experienced any difficulty in obtaining post larval warmwater shrimp (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?

☐ No. ☒ Yes, please describe any difficulties.

Particularly in the 1st quarter of 2005, good quality post larval were lost from the industry cycle due to tsunami. Naturally, as a result, supply of post larval have been short and limited. Grow out ponds to raise post larval were also damaged by the tsunami, therefore, making difficult for the farmers to gauge how much and when post larval would be obtained without risking further financial loss. Most importantly, obtaining good quality post larval has been an significant obstacle as a result of lack of good quality broodstock. Limited supply of good quality also caused price of the post larval to increase approximately 30% in the first quarter of 2005. However, we are hoping that quantity of the post larval would slowly increase under the condition that production quality and efficiency are improved to afford the reasonable or better survival rate after the re-construction and operational return of the good broodstock production. We are concerned, however, that the time by which this occurs may be longer than originally anticipated, due to the slow recovery of hatcheries.

S-9. Since the tsunami, have you experienced any decline in the quality of post larval warmwater shrimp available to your warmwater shrimp farms?

☐ No. ☒ Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

First, it must be noted that good quality post larval should compose of at least healthiness, free from viral and bacterial disease, and free from all chemical residue. Additionally, good farming management is crucial to afford good growth and survival rates of post larval. After the hit of tsunami, hatcheries in the six provinces, which represents about 60% of hatcheries in Thailand, have been hard hit resulting in significant loss of hatcheries, good quality broodstock, nauplii and post larval. Without good quality broodstock and qualified as well as efficient hatcheries, it is natural that quality of good post larval has declined. There are attempts by some hatcheries to breed broodstock locally without proper bio-security systems. Quality has proven poor as disease from bacteria and virus cause contagious disease, slow growth rate, and lower production due to low survival rate.

S-10. Please report the following information regarding the number of warmwater shrimp farms in production, production capacity, production, and employees in the warmwater shrimp farms.

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **FARMS IN PRODUCTION:** | | | | | | | |
| Extensive[1] *(hectares)* | - | - | - | - | - | - | - |
| Semi-intensive[2] *(hectares)* | 7,200 | 7,200 | 7,200 | 7,200 | 7,200 | 7,200 | 7,200 |
| Intensive[3] *(hectares)* | 64,800 | 64,800 | 64,800 | 64,800 | 64,800 | 64,800 | 64,800 |
| Total *(hectares)* | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 |
| In Regulated/Restricted Coastal Areas[4] *(hectares)* | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 | 72,000 |
| Affected by water contamination or other tsunami related damage[5] *(hectares)* | - | - | - | - | - | - | - |
| **CAPACITY:** | | | | | | | |
| Average production capacity *(1,000 lbs.)* | 1,100,000 | 275,000 | 329,750 | 275,000 | 329,750 | 1,319,000 | 1,319,000 |
| In Regulated/Restricted Coastal Areas[1] *(million post larval)* | - | - | - | - | - | - | - |
| Affected by water contamination or other tsunami related damage[5] *(million post larval)* | - | - | - | - | - | - | - |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(million post larval)* | - | - | - | - | - | - | - |
| Second harvest cycle *(million post larval)* | - | - | - | - | - | - | - |
| Total *(1,000 lbs.)* * | 793,440 | 143,260 | 105,400 | 168,830 | 122,530 | 617,000 | 749,000 |
| **EMPLOYEES** *(number)* | 176,000 | 176,000 | 140,000 | 176,000 | 140,000 | 140,000 | 145,000 |

[1] An overall stocking density not exceeding 30,000 post larval shrimp per hectare.

[2] An overall stocking density from 30,000 to 150,000 post larval shrimp per hectare.

[3] An overall stocking density in excess of 150,000 post larval shrimp per hectare.

[4] Provide the total number of warmwater shrimp farms located within specially designated areas subject to limitations on the production of post larval.

[5] Please describe "other" tsunami related damage. _____

**Source: Department of Fisheries/Thailand and Central Shrimp Auction Market.**

*** Note that there is no first and second harvest cycle in Thailand, as each farm produces on its own cycle.**

# THAI SHRIMP ASSOCIATION HATCHERY ASSOCIATION QUESTIONNAIRE

**CERTAIN FROZEN WARMWATER SHRIMP AND PRAWNS FROM INDIA AND THAILAND**
**(Investigations. Nos. 751-TA-28-29)**

*HATCHERY ASSOCIATIONS*

**Please return to the Commission by no later than August 9, 2005**

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**Name of Association** Thai Shrimp Association

**Address** No. 193/43 Lake Rajada Office Complex, 12th Floor, Ratchadapisek Road, Klongtoey, Bangkok 10110, Thailand

**World Wide Web address** _____

## CERTIFICATION

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Mr. Somsak Paneetatavasai / President
*Name and Title of Authorized Official*

*Signature of Authorized Official*

August 11, 2005
*Date*

(66-2) 661-8213-7 (66-2) 661-8196
*Phone* *Fax*

thshrimp@csoms.com
*E-mail address*

Thai Shrimp Association

**H-1. Please report the following information concerning the State/Province of the warmwater shrimp hatcheries and the quantities each produced in January-June 2004 and January-June 2005.**

| State/Province of warmwater shrimp hatcheries | Quantity *(1,000 pounds)* | |
|---|---|---|
| | January-June 2004 | January-June 2005 |
| Phuket | 143 | 69 |
| Phang-nga | 66 | 3 |
| Krabi | 11 | 6 |
| Ranong | - | - |
| Trang | 32 | 20 |
| Satun | 12 | 6 |
| Total Six Provinces | 263 | 104 |
| Other Provinces | 175 | 156 |
| Grand Total | 438 | 260 |

Source : Department of Fishery/Thailand and TSA

Remark: Weight of White (P. vannamei) PL 10 = 0.006 g/PL (13.22 pounds/$10^6$ PL)
Weight of Black Tiger (P. monodon) PL 15 = 0.01 g/PL (22.04 pounds/$10^6$ PL)

*Note: (a) In 2004, the six affected provinces accounted for 60% of hatchery/nursery production in Thailand : Calculation 263 divided by 438 equal 60%*

*(b) About 35% of the country's hatchery/nursery post larval ("PL") production capability was destroyed by the tsunami : Calculation by 263 minus 104 equal 159. Then takes 159 divided by 438 equal 36.3%.*

**H-2. Please list the States/Provinces where wild warmwater shrimp broodstock were harvested in January-June 2004 and January-June 2005.**

| State/Province of wild warmwater shrimp broodstock harvesting | |
|---|---|
| January-June 2004 | January-June 2005 |
| Phuket | Satun |
| Satun | Trang |
| Trang | |
| Krabi | |

**H-3. (a) Please report the following information concerning the warmwater shrimp broodstock purchased and/or imported in 2004 and projections of purchases and/or imports of broodstock for 2005 and 2006.**

| Warmwater shrimp broodstock purchased * | | | Warmwater shrimp broodstock imported (or locally cultured) ** | | |
|---|---|---|---|---|---|
| 2004 | Projected 2005 | Projected 2006 | 2004 | Projected 2005 | Projected 2006 |
| 199,040 pcs. | 26,000 pcs. | 30,000 pcs. | 168,800 pcs. | 176,430 pcs. | 203,570 pcs. |
| 52,645 lbs | 6,877 lbs | 7,935 lbs | 16,751 lbs | 17,500 lbs | 20,000 lbs |

* Being Black Tiger : 1 pcs. ~ 120 gm. = 0.2645 lbs.
** Being Vannamei : 1 pcs. ~ 45 gm. = 0.0992 lbs.

Black tiger broodstock are purchased domestically, Since the tsunami, it has been very difficult to find black tiger broodstock in the sea as good black tiger broodstock is caught from the deep sea and fishermen are less capable financially and practically now to conduct such fishing. Also, as compared with vannamei, black tiger broodstock results in a much lower yield of PL and adult shrimp production. Due to the lower production yield, the grow-out farmers' demand is increased for vannamei PL, so that Thai hatcheries are increasingly shifting their acquisition of broodstock away from black tiger to vannamei.

It is important to note, however, that all imported vannamei broodstock are imported from only six approved farms in the USA (see answer in H-3 (b) below). Given the greater quality in the overall broodstock, ease of raising, greater productivity and commercial viability, imported vannamei broodstock has become the dominant broodstock used by Thai hatcheries. As a result, importation of vannamei broodstock was and is still projected to increase, as the replacement to diminishing black tiger shrimp production in Thailand, though some hatcheries have attempted to culture broodstock locally since the tsunami due to the high cost of and limited availability of imported broodstock.

**(b) Discuss any restrictions on the importation of warmwater shrimp broodstock. Explain how such restrictions affect a hatchery's purchasing decisions.**

There is no restriction on the importation of black tiger shrimp. With respect to vannamei, however, importation is restricted to six places in the United States. These restrictions are outlined in the Announcements of the Fisheries Department dated July 21, 2004 and March 15, 2005 Re : Certification of Source and Farm Producing Vannamei for Import into the Kingdom. Under these announcements, the Fisheries Department only approves importation of vannamei broodstock from: (1) Shrimp Improvement System, Florida, USA; (2) Syaqua, California, USA (and only those developed from Oceanic Institute, Hawaii, USA); (3) High Health Aquaculture, Inc., Hawaii, USA; (4) Kona Bay Marine Resource, Inc., Hawaii, USA; (5) Molokai Sea Farms, Hawaii, USA; and (6) D&J Ocean Farms, Hawaii, USA.

Apart from these places, Thai hatcheries may not import vannamei from other sources.

The restrictions on alternative sources of vannamei broodstock prevent spikes in broodstock supply. On the contrary, given the limited number of suppliers, hatcheries are not always able to procure the quantity they desire. Yet, even if there were no import restriction, many of the small family owned hatcheries could not afford to import alternative sources of broodstock. Financial assistance from the government is limited as initial compensation to-date is just Baht 20,000 per hatchery farm, which has been paid to only a limited number of hatcheries who have applied and proven their eligibility (some have decided not to return to the business, others were not registered with the government prior to the tsunami). Thus, the restrictions in broodstock supply and increased demand as a result of the tsunami have resulted in an increase in the price of both the broodstock and, in turn, raw shrimp prices (at least during the first quarter of the year).

In addition, upon importation of vannamei the Fisheries Department imposes further requirements restricting the ease of importation. The Announcement of the Fisheries Department dated May 10, 2004 fixes qualification specifications of a qualified hatchery to register with the Fisheries Department if proven to have received Code of Conduct Certificate ("CoC") from the Fisheries Department. The hatcheries must have specific broodstock tanks capable of strict segregation clearly separating different types of broodstock. The hatcheries must also provide dedicated hatchery ponds specifically for breeding improvement and development of the permitted imported vannamei broodstock or of the improved and developed vannamei broodstock. Also, for importation, the registered hatcheries have to submit application for each import with certification of Specific Pathogenic Free (SPF) from the approved broodstock farms overseas. This strict control and monitoring has significant effect on those wishing to engage in broodstock hatcheries as it is burdensome, particularly as a result of tsunami impact.

**H-4. (a) Describe the type and extent of damage caused to warmwater shrimp hatcheries by the tsunami.**

**Physical Structure and Internal Infrastructure**

The largest and highest quality shrimp hatcheries in Thailand are located in the provinces directly affected by the tsunami. Indeed, the most productive of these hatcheries are located on the shore, as the water from the open Andaman sea has proven the most favorable conditions for efficient and high quality nauplii and PL production. In 2004, hatcheries and nurseries in the six provinces affected by the tsunami represented 60 percent of the country's overall PL production. (Note that many of these facilities are combined hatcheries and nurseries, while some are nurseries only. Hatcheries produce nauplii; nurseries produce PL, which comes from the hatcheries. Much of the PL production is conducted at facilities with integrated nauplii/PL production, but a significant portion also comes from nurseries that much procure their nauplii from hatcheries. Thailand's Department of Fisheries, however, maintain records only on the production of PL, not nauplii, thereby collapsing the productive capability of both hatcheries and nurseries.) Because so many of these hatcheries were located directly on the sea in the Phang-nga, Phuket, Kao Lak, and Bangsak region, the tsunami wiped out a significant portion of the country's hatchery production – about 35 percent of overall production, based on surveys conducted by government and industry officials (see table in H-1). In the areas surveyed, most hatcheries were almost completely destroyed, with the only remaining salvageable part of the physical plant being the concrete foundation. Pumps, pipes, electrical apparatuses such as transformers and stand-by generators, vehicles, office buildings, and living quarters for owners, managers, and staff were completely lost.

Internal infrastructure supporting the hatcheries was also destroyed. Shrimp cultivation requires large amounts of high quality electricity to power pumps, aerators, and control temperature. Hatchery owners must pay to have electrical power connected from the nearest road to their facilities. Yet, these power lines and transformers were destroyed by the tsunami. Assuming the financial support to do so, it is estimated that it would take at least six months to reconstruct a destroyed hatchery farm from scratch. However, financial support from the government and/or lending from financial institutions must be available in order to make this happen. This has failed to occur in many instances, even nearly eight months following the tsunami. Infrastructure reconstruction alone will cost about US$20,000 to install new transformers and lines for each facility. Because of these types of expense, and the lack of insurance and financing, many hatcheries have been completely abandoned and are not yet being reconstructed. Those that have begun reconstruction are having difficulty in finding a sufficient work force for the reconstruction efforts. Thus, many of these companies have not begun reconstruction or, llike CPF's Tawan hatchery, are even now only operating at 40 percent capacity.

Overall, TSA estimates that its members have sustained losses of more than US$32 million in physical plant in just two of the provinces affected by the tsunami (Phang-nga and Phuket).

**Human Resources**

In addition to the physical damage wrought by the tsunami, the human cost has been devastating, both in terms of loss of life among workers and their families and, after the tsunami, loss of available workers to help with reconstruction and continued production. Because the hatcheries were located directly on the water and require constant attention (e.g., the fry must be fed eight times per day), owners, managers, and employees were usually domiciled immediately adjacent to the hatchery/nurseries, and their families live nearby. This made the shrimp hatchery workforce highly exposed to the powerful tsunami.

Our members reported 23 people dead or missing, and another 29 injured. This represents a small fraction of the approximately 15,000-strong pre-tsunami hatchery workforce. However, many more family members of owners and workers, many of whom were killed or missing. The events of December 26 have had a heavy psychological effect on the affected communities. Those workers who survived have for the most part returned to their home villages, since they no longer have employment. Even if the owners had money for salaries, it is an open question as to how many workers might be available, as many workers departed for fear of another wave. It is expected that a significant percentage of tsunami survivors who were engaged in fishing and aquaculture will voluntarily relocate to Bangkok or other locations and take up alternative livelihoods.

Recovery of the industry depends on the restoration within the workforce of morale and confidence, which will take some time. Compounding the problem is the fact that reconstruction work in other affected sectors (notably tourism) is causing a general manual labor shortage in the tsunami-affected areas of Thailand. Many former shrimp industry workers found other work perceived to be safer, and will not be interested in returning to what is now viewed as a risky job.

**Broodstock and Other Raw Material Losses**

Broodstock – the breeding pair of shrimp – are required for hatchery production. Any broodstock existing at hatcheries destroyed by the tsunami were a total loss, at a cost of approximately $1.5 million (see H-6). As discussed above, vannamei broodstock are sourced only from the U.S. (Hawaii and Florida), and are priced at around US$30 per broodstock. For most hatcheries this is

very expensive and can be cost prohibitive. In addition, some hatcheries note that the price for imported broodstock is increasing. Also, as mentioned in H-3 (b) above, importation of broodstock may not be done freely and easily. Thai hatcheries may import vannamei broodstock only from six approved sources in the USA and even though many want to do so as soon as possible, they have encountered difficulty in qualifying under the announcement and regulation of the Fisheries Department. It is unclear how many of the hatcheries will be allowed to import and raise broodstock. During our interviews, owners and managers reported that they had lost all of their broodstock. The region's hatcheries utilized thousands of broodstock shrimp, and these must be replaced. Yet, due to the import restrictions and the continually increasing prices for broodstock many hatcheries remain shuttered.

In addition to broodstock loss and difficulty with replacement, hatcheries also lost many nauplii and PL, as well as opportunity costs (measured as the probable value of the post-larvae fry if they had been sold at the appropriate time to shrimp grow-out farms). Likely cost here is greater than US$2 million. Feed and other expendables were lost as well, with an estimated replacement cost of US$1.5 million.

Total tsunami damage (farm property, broodstock, post-larvae shrimp, opportunity costs) is estimated to be about US$60 million. See Appendix A for detailed compilation of tsunami damages in the Department of Foreign Trade submission to the Commission on the Impact of the Tsunami on Thailand's Shrimp Industry (March 22, 2005).

**Downstream Effects**

This lack of post-larvae shrimp resulting from hatchery destruction has obviously had an effect on downstream industry – i.e., shrimp grow-out farms. This effect is delayed, as it normally takes 3-4 months for the post larval to grow to marketable sizes. Therefore, the full effect of the supply shortage of PL shrimp was not necessarily felt immediately.

(The shrimp grow out ratios for the two shrimp species are as follows: 1 pair of vannamei broodstock could produce 1.2 million nauplii, with survival rate of 35%, therefore, rendering 420,000 PL supply. For black tiger: 1 pair of broodstock could produce 0.6 million nauplii, with survival rate of 25%, therefore, rendering 250,000 PL supply.)

Unlike the hatcheries, grow-out farms typically are not located very close to the water, so in general such facilities were unaffected by the tsunami. January and February are regarded as the best time of year for introduction of post-larvae shrimp into the grow-out ponds, so under normal conditions the grow-out farms would be operating at full capacity during these months. As reported in the U.S. Embassy Report several farms in the Phuket area were already suffering from a lack of PL shrimp supply. At one of the grow out farms, only two of the 11 available post-larvae ponds were filled with shrimp. The others were empty, owing to lack of post-larvae shrimp. On the other farm only 4 of 15 ponds were filled with post-larvae shrimp, for the same reason.

While some farms suffered shortage of supply in the first quarter of 2005, others felt the effect later, and will continue to feel the effects as many hatcheries remain shuddered. With reduced post-larvae supplies, as a short term fix shrimp grow-out farms may opt to keep their existing post-larvae longer. This will produce larger (higher value) shrimp, but will have effect of further lowering production. In addition, the slower pace of the hatchery recovery efforts will mean that farms will continue to find difficulty in obtaining PL supply. Therefore, the processors may not feel the full effect of the raw shrimp supply shortage until the end of the year.

**(b) Please describe the time and cost involved in repairing or reconstructing the damaged warmwater shrimp hatcheries, any barriers to such repair or reconstruction (i.e., lack of financing, insurance, scarcity of repair/replacement materials or qualified craftsmen, etc.).**

A return to pre-tsunami production levels depends on the restoration of the hatchery/nurseries in the tsunami-affected areas. TSA and Government officials previously estimated that the hatcheries could be rebuilt in about six months. However, this has proven impossible in many instances due to a variety of factors. Availability of finance is slack and slow. Hatcheries are generally undercapitalized businesses; historically, shrimp hatcheries have not had access to formal institutional financial lending. Credit, when it can be obtained, usually is through informal sub-prime lenders, or via informal loans relatives. Interest rates in the informal market are about 3 times higher then the formal market.

We note that large and better-funded hatcheries have been re-building their hatchery facilities. Even these larger better funded hatcheries have not been able to completely recover. For example the CPF Tawan hatchery in the Phang Nga province has only been able to achieve 40 percent of its total orders in 2004. Often these hatcheries have only been able to reconstruct a portion of the overall facilities. Reconstruction in these hatcheries is on going. Same is true for the smaller hatcheries, which are still re-building their facilities. Many of these smaller hatcheries have also given up have abandoned their farms. TSA anticipates that complete re-building and re-running of the hatchery activities shall not be until the end of 2007 with production expected to return to pre-tsunami levels not until 2007 at the earliest.

Many owners had hoped for low interest loans from the Royal Thai Government. The traditional conduit for capital to small and medium enterprises (SMEs) is two government-owned institution; the SME Bank and the Bank for Agriculture and Agricultural Cooperatives (BAAC). In the current situation, neither bank lacks lending capacity for making new loans. The Thai Central Bank is making available funds to all Thai lending institutions at 0.01% p.a. for 3 year terms for lending to those affected by the tsunami with the provisions that: 1) they cannot charge the customer more than 2% p.a., and 2) 80% of the new or restructured loan must come from the commercial bank's own funds. The problem is that lending standards require loans to be more or less fully collateralized. Most of the hatchery owners have outstanding loans so therefore underwriting won't support much in the way of new lending on top of servicing the outstanding debt (even at reduced interest). To-date, there has not been a single loan made to the tsunami impacted areas, hatcheries and/or grow-out ponds. Both the SME Bank and BAAC are overwhelmed by the volume of restructuring loan requests, so it may take some time before they even start underwriting the shrimp sector's loan requests.

We should note that few hatchery owners carried insurance on their physical plant. Hence, reconstruction must come from savings, if any, and financing discussed above.

As also discussed above, reconstruction will require labor, but many owners report that even if they had money for rebuilding, they doubt that sufficient labor could be found.

Finally, supply constraints on obtaining sufficient amounts of broodstock have also slowed the recovery. The sudden destruction of such large quantities of shrimp hatchery inputs has caught suppliers off-guard and scrambling to catch up with demand. Many broodstock suppliers have placed Thai purchasers on allocation, with 30-50 percent of the order being filled immediately,

with the balance promised by August 2005. Similar delays exist with cement, electrical installation, pipes, and carpentry services.

Due to the combined effect of these factors, full recovery is likely to be delayed until 2007 at the earliest.

**H-5. (a) Have hatcheries increased or decreased production of post larval warmwater shrimp since the tsunami?**

☐ Increased ☐ Unchanged ☒ Decreased

**(b) Please describe any limitations to increasing post larval warmwater shrimp production at existing hatcheries.**

Because broodstock was significantly washed away by the tsunami, there have not been sufficient quantities of broodstock available for the production of post larval shrimp. Since 2005 the trend has been for the hatcheries to shift from the Black Tiger broodstock used in production to the vannamei broodstock. In 2004, vannamei post larval production was about 71% of total production of all post larval vannamei and black tiger shrimp combined, but in the last quarter of 2004 it is estimated that vannamei post larval production is about 95% of total production. The increase of vannamei post larval production is due to the fact that raising black tiger shrimp generally grow at a much slower rate and have greater rates of infection, which results in an increased death rate. Raising vannamei in grow-out ponds is easier and result in greater productivity.

Also, as mentioned before, importation of vannamei broodstock is limited only from the six approved farms in USA. However, since the tsunami, many hatchery farms are unable to satisfy requirements of the Fisheries Department to import vannamei broodstock. Demand is greater than supply, so hatcheries are unable to import enough broodstock for further production of post larval. Additionally, broodstock from the approved farms in the USA is expensive (i.e., US$30 per broodstock). Lack of financial support makes it difficult for hatcheries to make such purchases and as a result, not enough broodstock are available to produce post larval shrimp.

If the vannamei broodstock could not be imported, it must be harvested locally in the culture ponds of the grow out farms. There are significant barriers to this method. Basically, the grow out pond would have to be completely disease free, which is extremely costly and difficult to accomplish. In addition, if successful it would still take nine to ten months to raise vannamei broodstock, which is an extremely long period of time and would be very expensive. Once harvested, these vannamei would then be sold to the hatcheries to raise PL shrimp. However, if these broodstock are contaminated, which is likely because the farms are not bio-secured environments, the entire hatcheries PL stock generated from the contaminated broodstock will be unusable. To the best of our knowledge there are very few farms that are attempting to do this.

Hatcheries have also had significant difficulties in hiring laborers to work due to fear of another tsunami. Many have moved out of the tsunami impacted areas and vow to not return. In addition, many workers have taken alternative forms of employment such as construction jobs in the reconstruction of the many vacation resorts. Thus, there is not a sufficient work force to support production.

Obviously, lack of financial support to reconstruct hatchery farms and facilities has caused decrease of post larval production.

**H-6. Please provide the quantity and replacement costs of warmwater shrimp broodstock and nauplii lost as a result of the tsunami.**

| Warmwater shrimp vannamei broodstock | | Nauplii | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(number)* | Replacement costs *(1,000 dollars)* |
| 41,800 pcs. | 1,254 | 25,080,000,000 pcs. | 5,016 |

Calculation

Approximately 8,778,000,000 vannamei post larval
One pair of vannamei broodstock can produce 1,200,000 vannamei nauplii
Vannamei post larval survival rate is 35%
Therefore, 8,778,000,000 divided by 35% = 25,080,000,000 nauplii
Then, take 25,080,000,000 nauplii divided by 1,200,000 = 20,900 pair of vannamei broodstock, which equals to 41,800 pcs. of vannamei broodstock

Note : Average cost of vannamei broodstock @ US$30 per broodstock
Average cost of nauplii @ US$200 per 1 million nauplii

| Warmwater shrimp black tiger broodstock | | Nauplii | |
|---|---|---|---|
| Quantity *(number)* | Replacement costs *(1,000 dollars)* | Quantity *(number)* | Replacement costs *(1,000 dollars)* |
| 6,160 | 370 | 1,848,000,000 | 370 |

Calculation

Approximately 462,000,000 black tiger post larval
One pair of black tiger broodstock can produce 600,000 black tiger nauplii
Black tiger post larval survival rate is 25%
Therefore, 462,000,000 divided by 25% = 1,848,000,000 nauplii
Then, take 1,848,000,000 nautili divided by 600,000 = 3,080 pair of black tiger broodstock, which equals to 6,160 pcs. of black tiger broodstock

Note : Average cost of black tiger broodstock @ US$60 per broodstock (i.e., male @ US$100 and female @ US$20)
Average cost of nauplii @ US$200 per 1 million nauplii.

**H-7. (a) How were the salinity levels of the warmwater shrimp hatcheries affected by the tsunami?**

☐ Increased X☐ Unchanged ☐ Decreased

**(b) What percentage of warmwater shrimp hatcheries experienced increased salinity levels?**
**_____ percent**

**(c) What percentage of production does this represent? ___ percent**

(d) **Please describe how changes in salinity levels impacted the warmwater shrimp broodstock and nauplii being raised at the time of the tsunami.**

N/A

(e) **Please describe how the changes to salinity levels affect current and future production as well as any future expansions/improvements to the warmwater shrimp hatcheries?**

N/A

**H-8.** (a) **Aside from changes in salinity levels, were warmwater shrimp hatcheries affected by any other adverse changes as a result of the tsunami?**

X☐ No. ☐ Yes, please describe the changes.

(b) **What percentage of warmwater shrimp hatcheries experienced such changes? _____ percent**

(c) **What percentage of production does this represent? ___ percent**

(d) **Please describe how these changes impacted the warmwater shrimp broodstock and nauplii being raised at the time of the tsunami.**

N/A

(e) **Please describe how these changes affect current and future production as well as any future expansions/improvements to the warmwater shrimp hatcheries.**

N/A

**H-9.** (a) **Please provide the following information concerning the number of warmwater shrimp hatchery employees displaced, injured, or killed in the tsunami.**

Displaced: 150 Injured: 29 Killed: 23

Please note that when we surveyed the tsunami damages in January and February 2005, we were able to identify only 133 hatchery farms hit by the tsunami our of approximately over 900 hatchery farms in the six affected provinces. This means that we were unable to identify approximately 760 farms to include in our survey as damage made it impossible to track them all down. Thereafter, we did not conduct another survey, but believe that the number of hatchery employees displaced, injured, or killed in the tsunami is much greater, particularly in Phang-nga and Phuket provinces.

(b) **What percentage of displaced or injured employees have returned to their jobs?**
50 percent [Note that this percentage also include employees having returned to reconstructed the damaged hatcheries, which is slowly progressed.]

(c) **Have the warmwater shrimp hatcheries been able to replace those employees lost as a result of the tsunami?**

☐ No. X☐ Yes, please describe any difficulties in obtaining replacement labor.

Due to fears of another tsunami, slow ongoing reconstruction of the hatchery farms, and financial difficulties the hatcheries have had difficulty in hiring replacement workers. Also, workers demand much higher pay in exchange of taking risk to work in the tsunami risk areas.

**H-10.** (a) **Are any warmwater shrimp hatcheries operating in specially designated areas subject to restrictions and regulations on the production of post larval warmwater shrimp?**

X☐ No. ☐ Yes, please give the percentage of warmwater shrimp hatcheries that operate in such areas and describe how enforcement of these restrictions and regulations since the tsunami will impact those operations.

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**H-11. Since the tsunami, have hatcheries experienced any difficulty in obtaining warmwater shrimp broodstock. (i.e., cancelled contracts due to tsunami damage, lost suppliers, limited supply due to tsunami damage, etc.)?**

☐ No. X☐ Yes, please describe any difficulties.

Vannamei broodstock was significantly washed away by the tsunami. Importation is strictly controlled by the Fisheries Department and many hatcheries are not capable of satisfying the requirements of the Fisheries Department to import and to grow vannamei broodstock. Vannamei broodstock from the approved farms in the USA is expensive and hatcheries do not have sufficient financial support to afford expensive imported vannamei broodstock. Greater demand with limited supply of good quality vannamei broodstock has caused a significant increase in the price of broodstock. Additionally, the lack of alternative financial support has made it difficult to buy broodstock.

As to black tiger shrimp broodstock, it is difficult to find as shrimp fishing boats are lost and damaged. Black tiger broodstock is caught in the deep water off the coast of Thailand, but the damage to the fishing fleet has prevented gathering large supplies of broodstock. Also, suppliers of black tiger shrimp broodstock have declined since the switch to vannamei broodstock in 2004.

**H-12. Has the average yield of post larval warmwater shrimp changed since the tsunami?**

X☐ No. ☐ Yes, please describe any changes (i.e., present yield per one million eggs as opposed to pre-tsunami yield.

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**H-13. Since the tsunami, have you experienced any decline in the quality of warmwater shrimp broodstock available to your hatcheries?**

☐ No. X☐ Yes, please describe the decline in quality as well as any changes in survival and productivity rates since the tsunami.

As discussed above, the severe constraints on adequate supplies of broodstock have forced hatcheries to turn to locally produced vannamei in the grow out farms. Yet, due to the difficulties discussed above, the grow out farms do not have bio-secured tanks. Thus, rather than importing (due to reduced capital to purchase expensive U.S. broodstock) hatcheries have to buy and grow vannamei broodstock from the farm grow out culture ponds, reducing broodstock quality and ultimately the fry quality causing disease and poorer quality or slow productivity at the grow out farm. For black tiger broodstock catching it from the seas would only be good if caught in deep seas. It is harder to find now, so catching it is not a reliable source of supply. As a result, quality of black tiger broodstock is poorer, particular with disease, e.g., white spot syndrome virus.

**H-14. Please report the following information regarding the number of warmwater shrimp hatcheries, production capacity, production, and employees in the hatcheries.**

| Item | | | | | | Projections | |
|---|---|---|---|---|---|---|---|
| | 2004 | Jan.-Mar. | | Apr.-June | | 2005 | 2006 |
| | | 2004 | 2005 | 2004 | 2005 | | |
| **HATCHERIES:** | | | | | | | |
| Total *(number / farm)* | 3,200 | 3,200 | 2,930 | 3,200 | 2,940 | 2,950 | 3000 |
| In Regulated/Restricted Coastal Areas[1] *(number)* | - | - | - | - | - | - | - |
| Affected by water contamination or other tsunami related damage[2] *(number / farm)*** | - | - | 270 | - | 260 | 250 | 200 |
| **CAPACITY:** | | | | | | | |
| Average production capacity *(million post larval)* | 51,000 | 12.600 | 8,000 | 15,500 | 11,000 | 39,000 | 45,000 |
| In Regulated/Restricted Coastal Areas[1] *(million post larval)* | - | - | - | - | - | - | - |
| Affected by water contamination or other tsunami related damage[2] *(million post larval)* | - | - | 9,240 | - | 9,560 | 29,900 | 23,900 |
| **PRODUCTION:** | | | | | | | |
| First harvest cycle *(million post larval)* | | | | | | | |
| Second harvest cycle *(million post larval)* | | | | | | | |
| Total *(million post larval)* * | 50,393 | 12,600 | 8,000 | 15,100 | 11,000 | 39,000 | 45,000 |
| **EMPLOYEES *(number)*** | 15,000 | 15,000 | 8,000 | 15,000 | 8,500 | 9,000 | 11,000 |

[1] Provide the total number of warmwater shrimp hatcheries located within specially designated areas subject to limitations on the production of post larval warmwater shrimp.

[2] Please describe "other" tsunami related damage. Water contamination was only a minor part of the impact of the tsunami, as most destruction washed existing supplies away entirely.

Source: Hatchery numbers from DOF; capacity, production, and employees from TSA.

* Note that there is no first and second harvest cycle in Thailand, particularly with vannamei broodstock raising and post larval production. Harvests occur all year at different times for different hatcheries.

** Note that the number of damaged farms is small, but that the hatcheries in the affected region are among the country's largest due to the benefits of the open sea. Note also that total farms here equals hatchery/nursery combinations and nurseries only, the latter of which depend on hatcheries for nauplii (DOF does not maintain data broken down between hatcheries and nurseries). The effect is better reflected in the quantity of PL produced, rather than number of farms, which pronounced due to the size of nauplii and PL production at facilities directly on the ocean in the affected region.

# APPENDIX I

## USITC FIELD TRIP NOTES--INDIA AND THAILAND

# FIELD TRIP NOTES–INDIA

*Trip Notes*
*Thailand-India*
*Aug. 14-27, 2005*
*Shrimp Changed Circumstances Investigation*

**August 19, 2005**
**Chennai, India**

**Meeting with Robert King, Political/Economic Officer and George Mathew, Economic Specialist, American Consulate General**

We met in the evening after traveling from Bangkok at the Taj Coromandel Hotel in Chennai. At the meeting we were provided with an updated schedule, contact information, and train tickets. During the meeting, George Mathew told us that 70 percent of the fishing fleet in Andra Pradesh was in operation.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives**

This meeting, held in a conference room at the Taj Coromandel Hotel in Chennai, consisted of several presentations followed by a question and answer period. Representatives came from throughout India for this Saturday meeting. The presentations were gathered in a lever file which will be submitted for the record. Following are some notes made during the presentations as well as the question and answer session.

***Introduction by C. Mohan Kumar, Chairman, The Marine Products Export Development Agency (MPDEA)***

The tsunami affected 1,670 miles of coastline.
2.8 million people were affected.
12,000 died, mostly fishermen and families.
115 billion rupees in losses ($2.6 billion).
Relief package–119 billion rupees ($2.7 billion).
Indian government role is prominent.
There is a study of the long-term impact on the ocean floor and on fisheries.

***Presentation by Elias Sait, Senior Advisor, The Seafood Exporters Association of India (SEAI)***

There was a disease outbreak in 1993-94 caused by imported black tiger broodstock.
This led to a prohibition on imports of broodstock as well as limits on stocking density.
98% of shrimp culture in India is extensive.
Farm culture (growout) phase lasts 4-5 months for black tiger, 7 months for freshwater (rosenbergii).
There has been an increase in Indian production of shrimp value-added products.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Presentation by Mr. D.P. Yadav, Director of Fisheries, Government of Tamil Nadu***

6,500 of the 8,010 deaths in Tamil Nadu were in Nagapattinam.
P. 4–Fishing Implements Relief measures:
- Vallams cost 1.5 million rupees
- Mechanized boats:
  - Cost 2.5-3 million r.
  - Partly damaged–60% of replacement value.
  - Fully damaged–35% of replacement value.
- Engines: 40% of replacement value.

P.6–Infrastructure restoration:
- No new building, just repair.
- 12-24 month forecast to restore harbors.

***Presentation by the Department of Fisheries, Government of Andhra Pradesh***

Recent disasters:
- 1977-Tidal waves
- 1990-Cyclone
- 2004-Tsunami

P.4–Relief Extended by Government–replacement of boats is going slowly–will pick up in the next few months.

***Presentation by Dr. Ramachandran, Director, Institute for Ocean Management, Anna University***

P.11–Salinization of Aquifers–Will take 2-3 years to return to normal. Need monsoon rains.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Presentation by Mr. M. Sudarsan Swamy, President, All India Shrimp Hatcheries Association***

P.3–Flow chart of shrimp hatchery operations–Larval rearing takes place in cement tanks.
P.4–Distribution of Shrimp Hatcheries in India–Black Tiger is native to Bay of Bengal, not in Arabian Sea.
P.8–Impact on Shrimp Broodstock–Normal salinity is 20-25ppt. After tsunami, 35ppt.
P.9–Tiger shrimp nauplii production centers–Best quality is in Andaman and Nicobar Islands. Disease problems in mainland production areas. There is no farming in the A&N islands–send all nauplii to the mainland.
P.10–Effect of Tsunami on Hatchery Operations:
- 20% decline in broodstock availability=50,000 animals.
- 25% decline in PL production resulted in a 50% rise in PL prices.
- Hatchery damage=$3 million.
- Manpower effect is on direct employment. Indirect effect greater.

P.11–Alternate Species:
- Vannamei–very small scale, rural farmers.
- 1994-White spot virus.
- Optimal size for vannamei-15-16 grams, compared with 40 grams for black tiger.

***Presentation by Mr. S. Santhana Krishnan, President, Society of Aquaculture Professionals, India***

All shrimp farming in India is extensive.
P.3–Slow growth–shrimp usually reach 34 grams at 4-5 months.
P.4–Damage: Primary=fixed costs; Secondary=variable costs.
P.4–Loss estimates: Most farms comprise 3-4 acres, are family holdings, not corporate. When tsunami struck, was feeding time. Also some people were on farms for maintenance/repair work.
P.6–Concern: Usually 1.5-2 crops/year. 4.5-5 month cycle.

***Presentation by Mr. AJ Tharakan, President, SEAI***

India concerned about reputation as a reliable supplier
The Indian government focused on social assistance. The Association gave more directed assistance to the shrimp fishery. Before tsunami, fishermen leased boats. Now more own boats.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Summary by Mr. Kumar***

Fishermen and farm workers fearful of returning near or to the sea.
Uncertain environmental impact.
Supply constraints (vannamei not an option) results in low supply elasticity.

***Q: India's hatchery system?***

Mangroves are a natural hatchery for broodstock. Need 18-22 ppt salinity (brackish) for nauplii, 35 (ocean) for PL.

2 types of hatcheries:

Wild caught broodstock. Special nets and handling. Less damage. Use maturation tanks–15-20 days.
In past, used wild-caught seedstock from the mangroves. Now there is a ban on the collection of wild seed (imposed about 3 years ago). Concerns about stock depletion. National ban, but instituted by Andhra Pradesh. Advantages to using single pair broodstock includes more uniform size, survival rate.

***Q: Why not use vannamei SPF broodstock?***

Not resistant to disease, only free of certain viruses. Can spread white spot virus.

***Q: Hatchery ponds were empty when growout ponds were full?***

A large number of hatcheries start in December. The main growout farm cycle starts in February because of temperature considerations. Need 28 degrees c and 28ppt salinity for hatcheries. This is seasonal.

***Q: How do you test broodstock for viruses?***

There are 100 labs. MPDEA gives a 50% subsidy to set up. There are both in-house and private labs. They use a PCR test that takes about 2.5 hours.

***Q: What percentage of the mangroves were destroyed?***

30-35%. Will take 2-3 years to renew, 5 years to recover to pre-tsunami level. There also was salt water intrusion in other areas. Will take 2 monsoons to clean out. The surface sea water can be pumped out.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Q: Where is the wild catch?***

Mostly on the west coast. East coast wild catch is down 30-40%. After monsoon churns the sea, shrimp come up from the bottom and the catch usually increases. That didn't happen this year.
The tsunami impact was mainly on the southeast coast. Most of the wild shrimp catch is in the south, both on the east and west coasts. There was some impact in Kerala as well.

***Q: Government programs?***

Private aid came from NGOs and Associations. This focused on fishing. Farms and hatcheries not targeted.
7% bank loans to fishermen.
Vessel insurance premiums reduced from 7-8% of vessel value to 2.5% of capital costs.
Long term: Housing (split between NGOs and Indian gvt.). 150,000 r per house; 1,300 sq.ft.
Farms/hatcheries–There is a proposal under the World Bank for a small compensation package. It is difficult for this sector to get loans.

***Q: Restrictions on interstate broodstock and PL shipments?***

Only Orissa. Andaman/Nicobar can only ship nauplii, not broodstock.

***Q: Can fishermen migrate between coasts?***

No restrictions, but there are unwritten rules regarding territory. There is some inshore/offshore regulation.

***Q: Can we get the study due in September (effect on ocean floor)?***

Yes.

***Q: CRZ–when will the remapping be completed, and will there be a reduction in the number of farms and hatcheries?***

Hasn't started yet. Where the sea encroached from the tsunami, farming will be banned. The concept is changing. The 500-meter zone will be reconsidered. There will be a "vulnerability" zone, with 3 risk levels (high, medium, low). The previous law took 2 years (1997-98). Now an integrated coastal zone management plan is being developed.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Q: Why was such a large share of the damage in Andhra Pradesh accounted for by nets?***

Because of artisinal fishing.

***Q: What is the migration pattern of shrimp?***

Cycle is continuous. April 15-June1 is banned for catch of broodstock.

***Q: How long is the long-term impact of the tsunami?***

2-3 years.

***Q: Andaman/Nicobar broodstock source?***

Local caught.

***Q: How long will adverse water conditions last?***

2 seasons.

***Q: World market prices passed backwards to farms and hatcheries?***

Yes.

***Q: Concern about competitors filling void?***

Yes. Indonesia is a competitor. Concern this will be a long-term problem. Consistency is an issue.

***Q: Where are black tigers found; are they caught with other species; do they require special handling for broodstock?***

Most production, 99%, is farmed. Wild catch is mostly white shrimp; small-sized, salad shrimp. Broodstock is carefully handled. Is a directed fishery. Can only keep a short time–must bring to shore quickly. Fishermen have special containers with aerators to keep alive.

**August 20, 2005**
**Chennai, India**

**Meeting with various Indian government and trade association representatives–Continued**

***Q: Difference between motorized and mechanized vessels?***

Motorized–outboard (inshore)
Mechanized–Larger, inboard, winches (trawlers; offshore).

**August 20, 2005**
**Chennai, India**

**Meeting with Mr. C.V. Shankar, Officer on Special Duty, Office of the Special Commissioner & Commissioner of Revenue Administation**

Three phases of the aid packages 1) emergency/humanitarian; 2) economic: @150,000 families impacted by loss of livelihood, livelihood aid focuses on rebuilding fleets and harbors; 3) expansion of harbors.

Believes the fear factor is important.

NGOs contributed a lot of FRPs, but most severe damage was to the mechanized boats. Shipyards generally have sufficient capacity, TN has brought in additional resources for shipbuilding and repair.

Even with the gear replaced, the fisheries themselves have changed, not finding fish. However, the fishing ban ended recently and catches are improving.

Small fishermen 60-70 percent back to sea. All mechanized vessels, outside of those in Nagapattinum are fully recovered. Nagapattinum accounts for 1,800-1,900 boats. In total about 50-60 percent of the full fishing fleet back to sea.

No NGO efforts targeting either the mechanized boats, hatcheries, or farms. NGOs have a preference for traditional farming and don't want aquaculture to displace crop land.

Tamil government's official position is not to use tsunami in combination with environmental regs to limit aquaculture. Tamil government planning support programs for aquaculture. They normally wouldn't support commercial ventures, but the tsunami is an unusual situation so aid is going to commercial activities.

Total fishing fleet in Tamil likely to expand beyond pre-tsunami levels by end of August. Increase in fleet size due to aid efforts.

For mechanized vessels expects fleet to return to pre-tsunami levels by end of September.

Availability of shrimp catch varies considerably. Some areas reporting shrimp down, others not. Believes that shrimp catch will further recover.

Believes long coastline was helpful because they could reach areas effected quickly and production areas were spread out which helped minimize the damage.

**August 20, 2005**
**Chennai, India**

**Mr. V. Vivekanandan, Chief Executive, South Indian Federation of Fishermen Societies**

Most members are on the west coast. Represents what is essentially a cooperative of small fishermen that is associated with fishermen's union. Group consists of sailing vessels and small motorized vessels. Their group is generally in conflict with larger mechanized vessels.

Notes that the larger mechanized vessels trawl almost exclusively for shrimp. Small fishermen account for a small percent of the wild catch, quesstimate of about 15-20 percent.

He notes a lack of confidence in state level fishing data. He prefers the federal data but most data is kept and reported at the state level. Federal data can be obtained from the Central Marine Fisheries Institute.

Doesn't believe his members do any broodstock harvesting. This is done primarily in January and February on the east coast. On the west coast shrimp fishing is done in June - August after the monsoon when the shrimp come up off the bottom. His members catch primarily white, although occasionally catch tiger and brown. Although his members do not account for a large percentage of total shrimp volume, their shrimp catches account for a large percentage of their income.

Their conflict with the trawlers is for space and process. Smaller operators use long-line, overnight fishing. Trawlers run over these lines. There is some conflict for product. They trace their problems with the trawlers to the opening of the export market which generated the market for the use of trawlers. Believes the trawlers by-catch is depleting the fisheries.

His members were back to sea before the trawlers, quicker/easier repair/rebuild times. In January-February no one was fishing because no one had replaced their gear yet. March-May beat the trawlers out and had good fishing. June-July was the fishing ban. Now everyone is back to sea.

Doesn't believe that the government aid to the mechanized operators was even close to replacement value, more like 1/3 of replacement value.

Tsunami impact on fisheries unclear. In areas not generally considered impacted by the tsunami catches are poor. March and May saw unusually high tides in the very far South, in areas not impacted by tsunami. Believes that the continental shelf absorbed the impact of the tsunami in these areas, but the impact damaged the continental shelf such that it cannot absorb the high-tides. All of this is creating uncertainty-fear, although most are still fishing. Really the only ones not fishing are those whose gear hasn't been replaced yet.

**August 20, 2005**
**Chennai, India**

**Mr. V. Vivekanandan, Chief Executive, South Indian Federation of Fishermen Societies–Continued**

The fishing sector in India is very informal, de-centralized. He would really like to see the duties revoked and a 15 percent reduction in trawlers. He notes that the marine fishing industry in India has no real barriers to entry, no limit on the number of boats. Traditional, small craft fishing has barriers not faced by the mechanized fleet. These barriers are in the form of understanding traditional fishing methods and because recruitment for this sector consists primarily of family members, so it can be hard to expand.

He notes that tsunami aid has increased the number of motorized boats, believes that all tsunami impacted countries will end up with more boats than pre-tsunami levels. Post-tsunami the fishermen are getting more organized in their marketing which is increasing farm-gate prices and increasing costs for the processors.

**August 21, 2005**
**Nellore, Andhra Pradesh area**

**G.K Hatchery**

This is a hatchery/nursery, which is not currently operating.
129 ponds (tanks).
10-11 years old, one of the oldest in the area.
Water quality is poor now.
Season starts Jan.-Feb. Ponds were empty when tsunami hit.
1,200 ton capacity.
200 mil PL/yr–all monodon.
Need a good monsoon to improve water quality.
Tsunami redirected a creek, which discharged into the ocean near their intake. They had to forgo this season because of the water quality.
Lost a pumphouse to the tsunami.
Damage–10 lakhs rupees.
Most hatcheries in the area lost pumphouses.
Lack of broodstock supply.
10% of usual quantity being produced in area now.
PL prices are high now. Quality not good. Broodstock prices also high.
PL availability is improving now.

**C.P. Hatchery; Mr. Arthichai**

This visit was to a hatchery under construction.
Started building in July 05.
CP, based in Thailand, wants to control the quality of their PLs in India.
The facility will consist of 10 units with 20 3-ton tanks per unit.
5-6 million PL/mo per unit.
Does not believe they (CP) will have problems obtaining sufficient broodstock

**M. Ravichandra, Collector and District Magistrate, Nellore**

This presentation consisted of a PowerPoint presentation and a Q&A session. After the meeting, we visited the Krishnapattinam fish landing center.

See power point presentation.

Q&A:
They have replaced about 45 wooden catamarans with FRPs. These FRPs each replace 2 catamarans, two fisherman now share the boat. To date has replaced 1,393 and repaired 1,352 boats. Focus in the fishing community has been to increase the quality of the boats. No assistance to aquaculture.

He notes that there is a lack of broodstock, believes the broodstock were in the ponds on December 26th and were destroyed/lost.

**August 21, 2005**
**Nellore, Andhra Pradesh area**

**M. Ravichandra, Collector and District Magistrate, Nellore–Continued**

Government goal to convince some percentage of the population to switch away from fishing to other activity.

Believes that Nellore and Prakasa, heavily damaged areas, represent a large percentage of the shrimp production. Estimates that these account for about 30 percent of the shrimp production (both farmed and caught) in Andra Pradesh.

Many shrimp farms are being converted to rice paddies. Last year 20,000 metric tons of shrimp farming, this year 4,000 tons.

No assistance to mechanized fleet as of yet. Estimates that of the 82 mechanized boats pre-tsunami, 35 are currently operating. The remaining portion is under repair. The mechanized boat owners are generally considered too wealthy to target for aid.

No fear on the part of the fishermen about fishing, some stress/jitters but still fishing.

No effort yet to deal with salinization in the ground water. No assessment yet of damage to mangroves.

Fishermen are reporting poor catches relative to pre-tsunami. Some may not be staying out as long, because of fear issues. Has anecdotal information only.

Change to the FRPs will not require changes to fishing practices/techniques/expenses. Biggest difference between the FRPs and the catamarans is that the FRPs carry an ice box.

**Krishnapattanam fish landing center and nearby fishing village**

We were accompanied by Mr. Ravichandra to the fish landing center. From there, we were accompanied by Mr. Sudharshan, Program Manager, CARE, to a nearby fishing village.

Mechanized boats typically go 30 km offshore on 1 week trips.
Catch shrimp 50-60 meters deep.
Mainly catch indicus, some monodon.
2 buyers now; usually 10-12.
Processing plants are located in Nellore town.
Fewer buyers now–can control and manipulate prices easier.
The fishing villagers have received civil supplies.
There is some boat building occurring. Waiting for final sanctions from gvt.
Small boat fishermen lost craft and nets and stopped fishing.
Small boat replacements will be fiberglass.
Fishermen are ready to return to the sea.

**August 21, 2005–Continued**
**August 21, 2005**
**Nellore, Andhra Pradesh area**

**Krishnapattanam fish landing center and nearby fishing village–Continued**

They had 5 fiberglass boats damaged and 25 catamarans lost. Will receive 1 fiber boat for 2 cats lost.
Unable to get bank loans. Must get insurance first. Then subsidy will be released. Can't afford insurance–can't go fishing without boat to earn money.
There are 112 families in the village, 4-5 per family. Have to pay 2,500 rupees per family to get new house.
Some villagers are earning some money by working in the agricultural fields. Ag laborers earn 30 rupees per day.
Insurance premiums are 3,500 rupees/boat/year. Value of boat is 110,000 rupees.
Other villages up and down the coast are experiencing the same problems.
The fishing community won't relocate.
They have never dealt with insurance and banks in the past.
There are 16 groups in the village. The government provided ropes, but not nets.
Their last catch was the day before the tsunami.
The fishermen in this village are not afraid to return to the sea.
This village has no school for the children.

**August 22, 2005**
**Pondicherry, India**

**Mr. B.V. Selvaraj, Secretary, Relief & Rehabilitation, Union Territory of Pondicherry**

This was a very brief meeting. Mr. Selvaraj was not expecting us, saying that there had been no confirmation of our appointment. He interrupted another meeting to receive us.

In Pondicherry, shrimp is minor compared to fish. The catch is 4-5 thousand metric tons annually.

Complete decimation of fishing industry for 3-4 months.

The fishermen currently are back at sea.

Use fiberglass boats mostly.

Rehabilitation efforts are going well.

Some fishermen are afraid to return to the sea.

Recovery time depends on the effect on the sea floor. Planning a study on the hydrological impact of the tsunami.

**Father R. Ratchagar, Executive Director, Pondicherry Multipurpose Social Service Society**

We met with Father Ratchagar over lunch at our hotel, the Hotel Le'Orient. His agency is involved in many villages including 9 in Pondicherry and 8 in Cuddalore district, 2 of which (including Devanampattinam which we visited later) are fairly large villages.

The government supplied money for fishing boats, (which was squandered by some villagers according to Father R).
His organization has focused on supplying nets.
At the largest village (Devanampattinam), 33 boats were damaged and 101 families lost family members to the tsunami.
Those families have been grouped in units of five families, each of which has been given a boat, a motor, and 2 sets of nets.
Some boats have been given to people that were not boat owners prior to the tsunami.
600 people lost houses. Currently, 647 replacements are being constructed.
Efforts are underway to establish alternate livelihoods such as cultivating jasmine.
425 self help groups have been established, each of which was extended a 3000 rupee interest free loan. Some groups have received training such as tailoring/garment stitching. (Father R's website covers all the programs that are being established.)
According to Father R. the fishermen are back in business. The first boats went out in early May. He said that the catch has been okay and estimated that the fishermen would be fully recovered by the end of the year. However, the people are scared.

**August 22, 2005**
**Pondicherry, India**

**Father R. Ratchagar, Executive Director, Pondicherry Multipurpose Social Service Society–Continued**

There are land use conflicts in Pondicherry as a result of the effort to relocate fishing villages to safer areas. Frankly, others don't welcome the fishermen or want them in their areas. Father R. noted that quarrels between fishermen were common.
Father R. noted that the fishermen in the villages could see the change of color in the water as fish passed by.

**Mr. Gagandeep Singh Bedi, District Collector; Mr. Chandrasekaran, Assistant Director of Fisheries, Cuddalore**

This meeting consisted of a PowerPoint presentation and a Q&A period. Further information is available at http://www.cuddalore.nic.in

51 villages impacted, all dead buried within 24 hours. Women and children mortality higher because they were smaller and couldn't run as fast. Electricity restored within 3 days. All boats damaged or destroyed (1.5 lahks rupees damage).

Funds provided to the fishermen for boat repairs. 32-35,000 rupees to repair FRPs.

Average land holding is less than one hectare.

Believes some farms where stocked and lost shrimp.

Status of repairs:

1) damage assessment and id
2) Based on assessment repair cost estimate generated.
3) money released to fishermen, 250 million rupee total disbursement. Paid as a combination of loan and subsidy. Loan portion does not require collateral.

Enough was paid out to cover all costs for all boats and gear.

No assistance provided to shrimp farms. However, damage assessment completed and an estimated 3.5 million rupees.

Reports are that post-tsunami shrimp farm production is not as high, slower growth in the PLs. Due to bad water quality. In Cuddalore, water is pulled in from rivers/estuaries.

Cuddalore has one hatchery, but it has not been in operation during the last 3 years. Cuddalore has one broodstock center with two crops per year.

**August 22, 2005**
**Pondicherry, India**

**Mr. Gagandeep Singh Bedi, District Collector; Mr. Chandrasekaran, Assistant Director of Fisheries, Cuddalore–Continued**

Historical shrimp farm production 03/04: 690 mt; 04/05: 947 mt; ytd 05/06: 112 mt.

Historical shrimp catch June-July 2004= 72 tons; June-July 2005=24.8 tons.

Fishermen believe less shrimp, not fewer boats is responsible for the drop in the catch. They are reporting that with changes in the sea floor they do not know where to trawl.

They do not have any estimate of the number of boats back in the water. At this point they believe fishermen are back to normal effort, not too scared to fish. Expect fishing capacity to be fully restored by beginning of the next season.

To date no reports of farms having difficulty getting financing, they generally own the land.

The broodstock facility is not operating due to lack of PL demand. Their farms have sufficient broodstock in this district. They understand that hatcheries are fully supplied with broodstock.

**Devanampattinam fishing village**

The quantity of fish has been good for 1.5 months starting in June.

Catch mainly white shrimp.

The ocean bottom is not uniform.

The shrimp harvest is now poor.

Normal catch of white shrimp weighs 20-25 grams each average (heads-on).

Price: 500 rupees/kg pre-tsunami; 300 post-tsunami.

Diesel prices are increasing.

All 117 mechanized boats have been repaired. Not all boats are fishing, because of low shrimp prices and high diesel costs.

Last catch of shrimp was about a month ago.

Buyers say prices are low because export prices are down.

Fishermen say new boats are not well constructed.

**August 23, 2005**
**Nagapattinam, India**

**Dr. J. Radhakrishnan, District Collector and District Magistrate, Nagapattinam**

This meeting consisted of a Power point presentation and a Q&A session.

See power point presentation for data.

Nagapattinum was the worst hit district. The region has historically suffered from cyclones and depressions that result in high fatality rates. Fishing hamlets took the worst of the damage from the tsunami.

Note that for infrastructure repair data, figures are for proposed programs, not completed programs.

Not many hatcheries in Nagapattinam. Tamil Nadu has about 70, most located around Pondicherry. Reports from farms is that productivity is down, post-tsunami as are fish catches.

Aid efforts for the mechanized boats has focused on soft loans, 7 percent interest with 7 year term and no collateral requirements. To date they have replaced about 4,000 catamarans.

No assistance has been provided to the farmers.

Fishermen reported that initial catches were good, but are now declining. They report that in particular the shrimp catch is down. Nagapattinum has been a major supplier of broodstock. Currently less then 300 of the previous 600 boats for this effort are repaired and back in the water.

Pre-tsunami 50 percent of the total catch was from mechanized boats. Trying out steel hull boats, see newspaper clipping.

Most shrimp farmers own their land, with some renting from private land owners. To date no reports of farmers receiving bank loans.

Projects that full recovery of fishing and farming will take at least 2 years.

**August 23, 2005**
**Nagapattinam, India**

**Nagapattinam fisheries harbor**

This is the largest concentration of fishing vessels in Tamil Nadu and is the location of the worst damage. The harbor was being expanded at the time of the tsunami.

540 boats damaged, 280 destroyed. 50% have been repaired so far. Some will never be replaced because some fishermen exited the industry.

The harbor channel is too silted for regular use. Only sufficient draft for use during high tide.

A new landing center was 70% complete when the tsunami hit and was completely destroyed. Initial construction started March 04. Proposed completion date Sept. 30, 05.

Boat reconstruction began April-May 05.

New landing center will contain a section dedicated to export markets designed to meet international SPS standards.

**Shrimp growout farm, Cuddalore district**

This growout farm was located next to the shore and suffered damage from the tsunami, mainly breaching of bunds. It consisted of large, extensive ponds.

14 ponds and reservoirs, 14 hectares, producing 49 metric tons every 6 months.

New licensing scheme for new farms done on a per site basis, with analysis based on environmental impact in the area. No longer based on a minimum distance setback.

Ponds were stocked with 35 count shrimp, ready to harvest, when tsunami hit.

Most growout farms are located along the coast. There are not many backwater farms.

Can repair quickly–1 month. Financing is available.

PL not available because of lack of broodstock.

Can return to production in 1 year.

Labor is available, willing to work.

Had 50 workers. Must wait to repair ponds.

Own land. Can use as collateral for loan. Already has loan, but can't repay since the crop was lost. Banks may foreclose. Common problem in area.

**August 24, 2005**
**Chennai, India**

**R. Santhanam, State Relief Commissioner**

300,000 families were affected in Tamil Nadu. 13 coastal districts. 1 million people.

3 Southern districts; 11 zones; 7 villages each.

Multi-department teams (water, elect., etc.) assessed damage.

First task–locate and dispose of bodies.

Clothes were donated. People couldn't use–inappropriate. Coats, heavy fabric. Had a problem with disposal.

Opened 412 relief centers. Mainly in schools and marriage halls. Fortunately, tsunami hit at a low time for weddings. Peak is Jan.15-Feb.15.

Gave cash, provisions.

NGOs rushed in with cash. Fairness issues. Needed to coordinate NGO efforts.

The main emphasis has been on fishing communities. This is where the greatest impact was felt.

The government's initial package was not acceptable to the fisherman owing to a loan component. The government then agreed to give a grant, except for mechanized boats. More protests. Then the government changed to a partial grant with an optional loan. The NGOs were willing to bridge the gap with another grant. Now there are more fishing boats than before the tsunami.

NGOs get publicity by putting logos and names on the boats. The boats can be built very quickly.

70-80% of fishermen are back at sea. The mechanized fleets at Nagapattinam and Cuddalore are not all back yet.

Former laborers on fishing boats are now owners as a result of new grants.

In Cuddalore, fishing is back to normal–shipments are being made to processors in Kerala. The catch is good. Before tsunami, there were 300 boats. After tsunami, there will be 400 boats. Not certain if good catch is sustainable or if it resulted from the pause in fishing after the tsunami.

Q: Priorities in Tamil Nadu?

Recovery will take time. Will complete in next couple of years.

**R. Santhanam, State Relief Commissioner–Continued**

Housing is first priority, followed by other facilities such as toilets, community halls, schools, etc. Land will be given free. NGOs can construct housing–more flexible than government. 50-60 thousand houses will be constructed in the next few months. 60% of the work has been done; 70% of the land has been acquired. First batch of houses will be ready by mid-September. The government will give land and houses to those who were within 200 meters of the high tide line if they surrender their current location and relocate. This is voluntary. There have not been may takers, although recent unusually high tides are scaring people.

The second priority is livelihoods. There are reports of fishermen wanting to change professions. There are 2 projects, one with the World Bank (housing-$423 mil.) and one with the Asian Development Bank (fisheries infrastructure, capacity building-$143 mil.) There is another World Bank project to assist aquaculture farms. An assessment has been made. No timetable–expect some action in 3-6 months. There is also a $30 million fund from IFAD for community groups to regain livelihoods. Will be disbursed over a 7-year period.

***Q: Are the governments of India and Tamil Nadu assisting shrimp farms?***

No–they are not a priority. They were not as affected as fishermen and have greater resources to recover.

***Q: When will the shrimp industry recover?***

In about a year.

***Q: Will there be any structural changes resulting from the tsunami?***

Yes–there will be an increase in attention in the next 1-2 years on resources, infrastructure, cold storage, port facilities, better roads, marketing facilities.

**Central Institute for Brackish Water Aquaculture (CIBA), Chennai, India-Dr. P. Ravichandran, Director**

CIBA is a research institute focused on aquaculture, particularly shrimp.

Reports that 90 percent of India's farms are estuary based. 90 percent are small holdings about 2 ha. No estimate on what share of production the small farms account for.

Believes impact of tsunami on broodstock won't be clear for 1-2 years when the shrimp that were juvenile at the time of the tsunami become mature. The immediate impact on farms is the poor water quality resulting from blocked estuaries. This has increased the nutrient load and heavy metal load in the water.

**August 24, 2005**
**Chennai, India**

**Central Institute for Brackish Water Aquaculture (CIBA), Chennai, India-Dr. P. Ravichandran, Director–Continued**

A reservoir system can deal with this, but small farms do not have a reservoir system. The poor water quality doesn't result in die-offs it results in lower productivity, through slower/stunted growth.

Share of wild caught to exports differs by volume versus value. Wild caught shrimp contribute 20 percent of the value but 50 percent of the volume of India's exports.

Believes supply of broodstock is down, but not sure if it is a direct (lack of fishing) or indirect (changed ecosystem so fishermen can't find them anymore) result of tsunami. Best time for broodstock catching is January-February. No fishing in this time because of lack of boats.

There are plenty of immature shrimp (PLs) available right now. Operators are inducing maturity of existing juvenile shrimp to make up for shortage of wild caught broodstock. Inducing maturity results in lower quality eggs. Lower quality eggs result in lower fertilization levels and lower survival rates for the naupulii.

The shrimp farming industry in India generally stocks for two seasons: major stocking January-March for culture period March-July. The tsunami interrupted the first cycle, which was largely missed. Second season begins after the monsoons, August-September. While the two seasons capture the bulk of the industry, hatcheries can and due operate year-round. The extent of hatchery operation is determined by demand for PLs.

Current hatchery production is sufficient to produce enough to stock for the upcoming, second season. Hatchery production has been maintained through the induced breeding programs.

Tamil Nadu monsoons have been weak the last few years and if this continues there will not be enough flushing action through the estuaries to clear them out. Andra Pradesh monsoons, if normal, are sufficient to clear estuaries over 1-3 cycles.

CIBA is advising most farmers in Tamal Nadu to lower the stocking density in their ponds. Recommends lowering density from 10/m2 to 4/m2. For farms right on the coast, stocking density is limited to 6/m2. Alternatively CIBA is offering zero water exchange technology to shrimp farms to overcome water quality issues. However, this is generally to complex and costly for the small farms.

Believes that downstream demand drives operations at each upstream level.

**August 24, 2005**
**Chennai, India**

**CARE, Chennai, India--T.S. Padmapriya, Manager, Program Support; S. Paramasivan, Watsan Advisor**

Status of rehabilitation:

--To date, no official information.
–There are reports that the catch is lower now than before the tsunami.
--Unpredictable because of change in ocean floor and water conditions.
–Fishermen used to go out 2 km, fish at 8-10 meter depth. Now, everything is different.
–2 districts did studies–Cuddalore and Kanyakumara (sp?). No change in catch.
–Hear different stories regarding impact.
–There are 2 main issues:

–Number of boats damaged. An excessive number was replaced in some areas, a deficit in others. Also, fishermen used to migrate to the west coast seasonally. There was no official count for these migrants.
–So, catch is reported down per capita both in surplus boat areas (too many boats) and in deficit boat areas (more labor per boat–6-8 now opposed to 3-4 normally).

–Fishing communities are saying 60% decline in catches. Officially there is no decline. Fish landing data provided to CARE by the Chennai Collectorate show, among other things, that the daily fish catch in the Chennai region during the second week in July 2005 was equivalent to that prior to the tsunami and that 498 of the 580 mechanized boats are back in operation. These data were provided to the USITC by CARE and will be entered into the record.
–Some agencies in Nellore (SNARD) did catch studies which corroborate fishermen's claims.
–Usually after the seasonal closure for the mating period, catches increase. This year, low catch.
–The official count was realistic. Subject to high-profile media coverage.

***Q: How long to recovery?***

–Depends on state of mind. Also, if support is reaching communities. The NGOs are in a subsidies mode. There are now too many boats. Former laborers are now fishermen. This may result in a labor shortage in some areas. Also, migrant labor, undocumented.

***Q: Long-term issues?***

–Psychologically–tides, fear of another disaster. Number of days at sea has declined. No one has ventured into the sea the past 5 days because of unusually high tide.
–Family structure. Typically, men fish and women take odd jobs on land. Alternate employment for men will be difficult. NGOs are trying to find alternatives, for youths in particular. This is totally the result of the tsunami. Alternatives include construction, agricultural labor.

**August 24, 2005**
**Chennai, India**

**CARE, Chennai, India--T.S. Padmapriya, Manager, Program Support; S. Paramasivan, Watsan Advisor--Continued**

*Q: Quality of replacement boats?*

–Heard that they are not as good. Many fly-by -night boatbuilders taking advantage of NGO money. Inconsistency in letting contracts. CARE is very careful–require boats be built to spec, float tender. Bids are open, reviewed by a technical committee. Takes 15 days to a month to approve.

–NGOs and corporate sponsors are not as experienced administering this type of program. Good intentions, but not enough control.

–Size and shape of new boats are inconsistent. Some are idle because of concerns about seaworthiness. Many inexperienced builders; no technical specs given. Some boats will be replaced.

**Catholic Relief Services, Chennai, India–Anna Hrybyk, Program Coordinator**

–Export fishermen are the dominant elite–mechanized trawlers. Subsistence farmers and fishermen don't participate in this market. Local headmen are powerful and exploit workers. There are child labor and caste issues.

–In Andhra Pradesh, shrimp prices fell 2-3 years ago, many farms were abandoned, there were some suicides.

–Caste issues:
- –Owners of shrimp farms hire foreign labor, mainly Nepalese.
- –Untouchables (dalits) were displaced from land during the development of aqua farms.
- –There was a land grab.
- –There is a fisherman caste. Laborers are dalits.

–Extra boats are resulting in child labor (10-12 years old).
–Mechanized trawler owners were relatively well off before the tsunami. Post tsunami, everyone reduced to same level.
–40-50% of fishermen are back to work
–Mechanized boat owners head local councils. Inflate value of their losses. Cuddalore not as bad as Nagapattinam.
–Women's issues:
- –Panchayats (local councils) dominated by men; women have token representation.
- –Dalit women can always find work.
- –Many self-help groups now for women. Women can get microloans to invest in small businesses.
- –The women's self-help group movement in fishing villages was accelerated by the tsunami. Fish vending is an example of women's involvement.

**August 24, 2005**
**Chennai, India**

**Catholic Relief Services, Chennai, India–Anna Hrybyk, Program Coordinator**

–Insurance premium for boats is being covered by NGOs.
–Boat repair/replacement quality–some reports that the quality is not good. CRS boats are built to high standards.
–Tsunami effect on catch is variable–depends on location.
–Fishing will recover to pre-tsunami level in a year.
–Excess boats are being sold on the black market.

**August 25, 2005**
**Chennai, India**

**UNICEF, Chennai, India–Tim Schaffter, State Representative, Tamil Nadu & Kerala**

–The emergency phase is over; efforts have shifted to recovery (rehab). Housing, schools, etc. UNICEF not as involved now as UNDEP.
–Now focus is on employment.
–There is concern that there is an overresponse in replacing boats. This could result in nonsustainable fishing, using improved technology (fiberglass boats vs. Catamarans).
–Many shrimp farms were destroyed and have yet to recover.
–There were environmental concerns even before the tsunami.
–School enrollment rates have actually increased. No knowledge of child labor problems.
–Fishing is back to normal. Shrimp farming has not yet recovered.

**R. N. Roy, Consultant, Food and Agriculture Organization of the United Nations**

The interview took place in Mr. Roy's home in Chennai. Mr. Roy has been an independent consultant since 2000. He has expertise in fisheries management in the region. He has worked closely with brackish water aquaculture in India. One problem has been the lack of adequate regulation.

–Effect of tsunami on production–must focus on the following indicators:
  –Landing data. Data are questionable. Not rigorous. Use trade data instead.
  –Domestic shrimp demand in India has increased. Even a small percentage rise is substantial, given the large population base.
  –Damage to fishing fleet and farms must be assessed.
    –Damage to farms:
      –Rosenbergii not affected. Not produced in affected areas.
      –Monodon and indicus:
        --Wild caught was declining pre-tsunami. In affected areas (S. AP, TN, S. K), wild caught share of total production was declining. There was a movement in N. TN and AP to longlining.
        –Farms: semi-intensive (supplies most U.S. imports) were beyond 500 meter CRZ line. Impact of tsunami was minimal. If there was damage, generally required minor rehabilitation and capital. Salination is not a problem; recovery time could be minimal.
  –Bottom line: damage was short term. Will be quick recovery.

  –Prices:
    –Prices are not below production costs.
    –Expect complete recovery by 2006, 2007.

**August 25, 2005**
**Chennai, India**

**R. N. Roy, Consultant, Food and Agriculture Organization of the United Nations–Continued**

***Q: Broodstock availability?***

–Possibly a problem. Not a directed fishery.
–At one time, imports from Philippines and Thailand.
–There are R&D efforts to domesticate.
–Destruction of mangroves: in theory, there is a relationship between mangroves and the shrimp cycle. Difficult to quantify.

***Q: Inadequate creek flushing?***

–Yes, this is a possible problem. There was a problem before the tsunami. The tidal flush is low in the affected areas–1 meter or less.

***Q: Stocking density in India?***

–Farming is extensive. Varies widely depending on what is available. First generation of shrimp farmers were inexperienced and wanted a quick profit. Those that remained realized they needed to lower density. Now aiming at good growth rates, large sizes. Used to stock at 15-20 sq.m. Now 6-10.

***Q: Why is domestic demand up?***

–Changing tastes, rising incomes, increase in restaurant patronage. Still relatively expensive compared with other animal proteins.

***Q: Data availability?***

–Farm data are from the State Fisheries Departments. Also, MPDEA, trade associations.
–FAO data report what sources submit.
–District collectors' data:
  –May be off by 25-30%. Believes they use random samples.
  –1st auction–sales are registered. Is organized.
  –Quality of data varies greatly by region and how well organized the industry is.
  –Data collection could be politically driven, biased based on demand.
  –Data for fish farms are much more accurate than for landings.

***Q: Can other production regions fill the shortfall caused by the tsunami?***

–No. Before the tsunami, resources were stressed and were peaking. Larger boats are not being replaced as quickly as smaller ones. Small boats account for a minor share of the total catch.

**August 25, 2005**
**Chennai, India**

**R. N. Roy, Consultant, Food and Agriculture Organization of the United Nations–Continued**

***Q: Catch per unit effort data?***

-No. Some studies, but very spotty. Unable to get a comprehensive, integrated view. Central Marine Fisheries; Bay of Bengal project.

–Stock assessments are rare. Last one was 1978-79.

–It is becoming more expensive to catch and culture fish. Move from extensive to semi-intensive system increases costs (feed, fuel), requires long-term investment. This is a constraint to expansion.

–Contact: Daniel Pauly, University of British Colombia. Data expert.

**August 25, 2005**
**Chennai, India**

**Victoria Marine & Agro Exports Ltd.–A. Dasnavis Fernando, Chairman; J. Prasad, Executive Director; M. Ramanathan, Managing Partner; S. Arputham, Director, Finance**

This is a shrimp processing plant in the Chennai area. The plant exports frozen shrimp products mainly to Japan, the EU, and the US markets. The visit consisted of a short presentation, a plant tour, and a Q&A session.

–The company incorporated in 1985. Was a fishing company. Then started processing lobster tails anc crabs for Red Lobster (16 years ago.) Moved to present plant 5 years ago.
–Now specializes in shrimp. First, used wild caught. Now mainly uses farmed, both salt and fresh water species.
–Main markets are Japan, EU, US. About equally distributed.
–Maintain regular customers. 2-3 buyers in each market.
–Complies with EU traceability standards.
–In a partnership with Mitsubishi in Japan.
–Shrimp sizes have declined, both wild and farm.
04: 21-25/lb average
05: 5-10% smaller.
–Quantity has declined:
–Wild caught: 1st Q 05 was 40-50 lower than in 04; 2nd Qi 30-40% lower.
–Prices are lower both for wild and farmed shrimp, about 10-15 percent below the level last year.
–Prices for finished products are about 10 percent lower than last year.
-- Wild caught species include white (indicus), flower, monodon.
–Size distribution for wild and farmed (numbers indicate check marks):

| Wild | | Farmed | |
|---|---|---|---|
| U5 | 3 | | |
| 6/8 | 4 | | |
| 8/12 | 3 | | |
| 11/15 | 2 | | |
| 16/25 | 1 | 16/20 | 3 |
| 20/25 | 1 | 21/25 | 4 |
| | | 26/30 | 3 |
| | | 31/40 | 2 |

–The tsunami didn't affect villages evenly. This company moved to secure supplies from unaffected areas before his competition.

–There are 3-4 other shrimp processors in the area that are active out of 6-7 total.

–Average employee tenure–7-8 years. Workers live in dorms. Have a dispensery, yoga center.

–1-2 plants exited after the tsunami.

–Usually 2 shifts. In lean season, March-May, 1 shift.

**August 25, 2005**
**Chennai, India**

**Victoria Marine & Agro Exports Ltd.–A. Dasnavis Fernando, Chairman; J. Prasad, Executive Director; M. Ramanathan, Managing Partner; S. Arputham, Director, Finance–Continued**

–Each shrimp farm was impacted differently all along the Southeast coast.

–Plant buys from 100 farms. After tsunami, 10% fewer suppliers. Targeting larger farms now, so less impact on supply.

–Plant buys from 300 mechanized boats; 600-700 small boats.

–Time to recovery: Wild caught: 1-3 years. Farms: Varies, depending on water quality.

–Auction in Nagapattinam will benefit everyone. Will be an open market.

–End of period inventories increased after the tsunami because the market was sluggish–continuous bond, AD order.

–Impact on Rosenbergii:
- –Water quality an issue.
- –30-40% production decline.
- –More sensitive to water problems, particularly salinity.
- –Production totals about 30,000 mt. About 30% of total shrimp supplies in India.
- –90% of farms are in Andhra Pradesh. Some are in Kerala
- –Growout period is 270 days. 1 crop per year. Compared with 120-140 days for monodon.
- –Broodstock is wild; caught in rivers, but need brackish water to breed. Grow in fresh water.

**August 26, 2005**
**Chennai, India**

**Seafood Exporters Association of India**

This meeting was held in the Taj Coromandel Hotel in Chennai. It served as a wrapup/exit meeting after the week's travels and interviews.

**Ken Pierce, Wilkie Farr:**

Need to be cognizant of when the AD order began to impact the market.

Petition filed in December 2003.

Prelim August 4, 2004, should have come out in June but it was extended.

Industry anticipated impact in June.

Critical circumstances potential hung over the Indian market.

Prelim margins were high.

Customs began issuing instructions on the continuous bond in July 2004.

Therefore, trade was chilled 8-9 months before the tsunami.

**Ram-Waterbase**

2004 was a good production year, 1st crop good, 2nd crop bumper. Wild catches in 2004 was very good as well. In combination 2004 was a record production year. However, beginning in April 2004 threat of critical circumstances led to a drop in shipments. These, in combination, lead to record inventories at th end of 2004, up 20-25 percent over 2003.

Tsunami impact from worst impacted to least impacted: 1) fishermen, 2) hatcheries, 3) farms. By mid-2005 (end of 1st crop) total production down 15 percent, due to lack of shrimp available for processing. Expect lack of shrimp to continue and result in a 20-25 percent decline in production. Believes that the combination of different impacts from the tsunami on the farms and fishing sector will result in production decline for the next 2-3 years before they return to 2004 levels.

**August 26, 2005**
**Chennai, India**

**Seafood Exporters Association of India–Continued**

**Abe: processors' perspective**:

2004 saw enormous growth in stockpiling. The tsunami created fear among the processors that no one would buy their product because of rumors flying about impact of tsunami on the industry. Therefore, processors quickly made public comments that things would be ok to keep buyers from abandoning them. Bravado for a marketing exercise.

Right now processors should be operating at 30-50 percent capacity, but currently only at 5 percent capacity.

Aquaculture won't increase because: 1) environmental regs will lower the stocking density; 2) the industry won't due vanemii.

**Dr. Yader, government environmental monitoring group.**

Ecological damage, tsunami impacts over a long coastline. Resulting in large scale salinization, blocked estuaries, and debris build up. In the "long run" these will have a major impact on broodstock availability.

**Abe (again)**

International prices have been soft for the last two years and these prices are pushed down to the farmers. No real home market in India (no cold chain storage). This why prices in India are down despite shortages.

**Ken Pierce, Willkie, Farr(again)**

Shrimp is commodity product and India only accounts for 8 percent of the U.S. market, therefore, imports from India can have no impact on price, this is strictly a volume case.

**August 26, 2005**
**Chennai, India**

**Seafood Exporters Association of India–Continued**

**Q&A**

No restrictions, per se on imports of shrimp into India. However, to import without paying India's 35 percent duty processors need to obtain an advance license, demonstrate certain value added and then reexport. Generally too difficult to do. Ken notes that they believe that legally processors couldn't change the country of origin, which for shrimp is conferred by the location of hatching (what about landing?)

The impact of the continuous bond has been significant. Need to work through an Indian bank to obtain credit from a U.S. bank and pay both commissions. Generally takes 6-7 months to clear all the paperwork. The CB has resulted in an inventory buildup, trying to more aggressively target alternative markets in the EU and Japan. This inventory build up has put pressure on prices. Processors need to unload this inventory.

The best depths for wild caught shrimp are 30-40 meters up trawl in up to 150 meters.

It takes 12-16 months for wild shrimp to come into sexual maturity. Tsunami hit at a time when larvae stages where in the estuaries. Expects the impact of the tsunami to be seen on broodstock recruitment in 2006.

Assert that the impact of the increase in small boat capacity will not be significant. Most shrimp catch comes from mechanized boats. Believes it will be more than a year for mechanized fleet to recover (mechanized accounted for 90 percent of wild catch).

Wild catch levels have been fairly constant over the last 5 years. Assert that wild catch shrimp tend to be smaller sized and the U.S. was/is a big market for these shrimp.

Unaffected areas have a limited ability to fill in for shortfalls in impacted areas. Historically shrimp production has been concentrated in the SE and SW coasts because of favorable conditions (water quality, temperature, salinity). Fishery in the NW is not a big shrimp fishery, mainly fish and squid. Regardless the lack of broodstock would limit production no matter what the region. Broodstock mostly taken from the Bay of Bengal area.

The broodstock harvest is conducted primarily by mechanized vessels. They do target the broodstock but could also be considered by-catch because they haul other fish and shrimp in with the broodstock.

New law passed by Parliament overrides the Supreme Court decision banning shrimp farms in coastal regions. Allows farming in the coastal regions but limits the stocking density. Prior to the current regulatory framework typical stocking density was 6/m2, the new regulatory structure allows for 10/m2.

**August 26, 2005**
**Chennai, India**

**Department of State, American Consulate, Chennai, India: Robert King, George Mathew**

This was a brief exit meeting with the State Department.

Their understanding is that farms are concentrated in the Kakinda region of Andra Pradesh, with a wide range of farms from small to very, very large. Believes this area was not significantly impacted by the tsunami. This area also has a very large concentration of mangroves.

# FIELD TRIP NOTES–THAILAND

*Trip Notes*
*Thailand-India*
*Aug. 14-27, 2005*
*Shrimp Changed Circumstances Investigation*

**August 15, 2005**
**Bangkok, Thailand**

**Breakfast meeting with Mike Delaney, Economic Counselor, U.S. Embassy, Thailand**

Mr. Delaney provided some general background information on the Thai shrimp industry during an informal meeting at breakfast. Following are some of the topics that were discussed:

- *Water quality*

  Water quality is better now. The turbidity largely has been flushed.

- *Broodstock*

  The Thai broodstock business is very competitive.

  Thailand had a bad experience with imported broodstock from places such as China. Thailand now purchases high-quality broodstock from Hawaii.

  Kona Bay, in Hawaii, has a backlog.

- *Human resources*

  This is a key issue for recovery time. Will the people be motivated to return to the business? Many people are still afraid.

- *Consolidation of hatcheries*

  Large hatcheries, such as CP, are interested in gaining market share by buying and restarting damaged hatcheries.

- *Thailand is a price taker*

- *The EU GSP situation was anticipated; stocks were held back in April to wait for the more favorable tariff rate.*

- *Environmental issues remain on the horizon.*

  Water quality, pressure from tourism are long-term issues that may challenge the industry in Phuket and Phang Nga.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Shrimp Association**

The Thai Shrimp Association presented a video on the tsunami's impact on the Thai shrimp industry. Following the video, several presentations were given, followed by a question and answer period. PowerPoint presentations were given by Mr. Somsak and Dr. Sujint, which will be entered into the record of the investigation.

- ***Welcome by Mr. Somsak Paneetatyasai, President, Thai Shrimp Association***

- ***Video on "TSUNAMI Impact On Thai Shrimp"***

  **See DVD**

- ***Overview On Thai Shrimp***
  **Somsak Paneetatyasai**
  **President, Thai Shrimp Association**

  Shrimp was Thailand's 4th major export in 2004:

| | |
|---|---|
| Computers: | 9.53% |
| Vehicles: | 5.82 |
| Rubber and articles: | 5.51 |
| Shrimp: | 1.72 |

  Shrimp's share of Thailand's GDP declined from 2% in 2001 to 1% in 2004.

  Employment in Thailand's shrimp industry is 1.5 million (including indirect).

  Shrimp revenues totaled $1.625 billion in 2004.

  80% of shrimp farms are small-scale, family operations.

  The US accounts for 55% of Thai shrimp exports.

  EU: Thailand used to export 35,000 mt; now 5,000 mt. Result of lost GSP benefits.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Shrimp Association–Continued**

- ***Shrimp Industry of Thailand***
  **Dr. Sujint Thammasart–Continued**
  **Consultant**
  **Thai Shrimp Association**

Production: 2005: 60,000 ha; 280,000 mt
2004: 64,000 ha; 325,000 mt

Regions:

| Region | 04 | 05 | (000mt) |
|---|---|---|---|
| East | | 65 | 56 |
| Center | | 32 | 28 |
| South | | 228 | 196 |

Exports:

| 99 | 00 | 01 | 02 | 03 | 04 | |
|---|---|---|---|---|---|---|
| 240 | 250 | 255 | 212 | 234 | 240 | (000 mt) |
| 2.1 | 2.7 | 2.5 | 1.8 | ? | 1.7 | ($ bil.) |

Thailand began intensive shrimp aquaculture in 1987.

Thailand mainly farmed monodon until the last 3 years.

Vannamei was introduced by an American businessman.

Ratio in 2004 was 70% vannamei and 30% monodon.

Broodstock:

Monodon: Wild caught
1,000 boats
Domesticated broodstock under development

Vannamei: Domesticated SPF
Totally imported (HW, FL). Government must approve shipments.

Hatcheries: breed shrimp which produce nauplii that are sold to nurseries. 947 hatcheries.

Nurseries: grow nauplii to post-larvae. 1,457 nurseries.

Farms: 40,000 operators; 200,000 workers.

Processors/exporters (usually the same): 500,000 workers. Labor intensive. Mainly export to the US and Japan. EU much lower now that GSP benefits lost.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Shrimp Association–Continued**

- ***Shrimp Industry of Thailand***
  **Dr. Sujint Thammasart–Continued**
  **Consultant**
  **Thai Shrimp Association**

| Hatcheries/nurseries: | | # hatcheries/nurseries | Production (mil pl/mo.): |
|---|---|---|---|
| | Vannamei: | 2,264 | 35,465 |
| | Monodon: | 935 | 14,928 |

972 hatcheries/nurseries were in the tsunami area.

| Size distribution: | | |
|---|---|---|
| | Small (<10 m pl/mo.): | 90% (of the number) |
| | Medium (10-50): | 7% |
| | Large (>50): | 3% |

Use Artemia for feed, mainly from Utah, China.

60% of hatcheries are on Andaman Sea–best water quality
10% on Gulf of Thailand (West side)
30% on East coast

**August 15, 2005**
**Bangkok, Thailand**

**Thai Shrimp Association--Continued**

*Overview On Thai Shrimp*
**Somsak Paneetatyasai**
**President, Thai Shrimp Association**

| | | |
|---|---|---|
| Farm size: | Small (<1.5 ha): | 80% (of number) |
| | Medium (1.5-2.5 ha): | 18% |
| | Large (>10 ha): | 2% |

Small farms–1 pond ("backyard"). No hired labor. Land belongs to farmers. Low cost.
Medium farms–2-20 ponds.
Large farms–>20 ponds. Corporate.

Processing–the most labor intensive segment. Supports feed, transportation/logistics, ice, aeration, packaging, R&D, etc.

- *Impact of AD To Thai Shrimp*
  **Dr. Panisuan Jamnarnvej**
  **Dr. Panisuan was delayed in traffic and could not make the presentation.**

- *Impact of AD To American Consumers*
  **John Blazevich**
  **Chairman, Contessa Inc.**

Contessa is a shrimp importer. HQ in Los Angeles. 400 employees. Annual revenue of $200 million/yr. In business for 21 years.

Over 60% of Thailand's hatchery production was damaged by the tsunami.

Growout period: 3-4 months for white; 4-6 months for black tiger.

Prices have increased for small shrimp. Farms in Thailand are holding back to sell larger sizes to maximize revenues.

Contessa has orders for 600,000 pounds of small shrimp. Is having difficulty obtaining.

Owners are in debt. Bank moratorium on lending to hatcheries. There was no insurance.

There has been no rebuilding yet.

Revocation of the AD order will change the loan/finance availability and improve the attitude and morale of the affected operators.

**Thai Shrimp Association–Continued**

- **Mr. Suraphol Pratuangtum , President, Thai Shrimp Farmers Association of Southern Thailand. Mr. Suraphol gave an unscheduled presentation.**

  The most direct effect of the tsunami was on hatcheries.

  Farms were less directly affected. Most are located inland. However, the water quality was adversely affected. The shrimp crop in the ponds at the time of the tsunami was lost because of the environmental impact on water quality. The water became turbid.

  New crop–productivity is unstable because of water quality. Hopefully this will be temporary.

  The variety of production sources in Thailand lessened the impact of the tsunami.

  The AD order caused the price to farmers to decline. This is particularly bad because of the large number of small-scale farms.

- ***Question and answer period***

  ***Q: Could we get PowerPoint Presentation?***

  Will be put in record.

  ***Q: Percentages of hatcheries–number or production?***

  Number

  ***Q: Production by region–forecasting declines even in E and C regions–because of decline in availability of broodstock from SW hatcheries?***

  Yes. Most PL sent from SW. Most hatcheries on Andaman because of water quality.

  ***Q: Change in water quality in Andaman that will impact productivity?***

  There has been a psychological effect. Low prices, tsunami.
  In the short run, turbidity an issue.
  In long run, can't tell yet.
  Broodstock is not as available in the wild (monodon).

  ***Q: Availability of white shrimp?***

  HW. Need 8-10 month lead time. Use seed from Oceanic Institute. Financing is a problem.

**Thai Shrimp Association–Continued**

- ***Question and answer period–Continued***

***Q: AD revocation effect on financing?***

Government red tape is a problem. Progress is slow. Up to now, there has been no government support other than $500/family.

Black market–10-20% interest. Banks are very risk averse. Small hatcheries can't get financing from banks.

***Q: Over 200 hatcheries destroyed?***

974 hatcheries total. 200 destroyed; 60% of capacity.

***Q: How will revocation of the AD help the affected operations and not benefit those not affected?***

Price will increase overall; financing will be easier to obtain.

***Q: Are there alternate sources of supply for U.S. importers other than Thailand?***

Yes, Indonesia, Bangladesh. Will expand market share. Easier for U.S. importer to shift to other sources than it is for Thailand to recover.

***Q: Thailand concerned about long term loss of market share?***

Yes. China has the highest duty, but is transshipping. There is evidence. Now new exporters with no shrimp industry, like Cambodia. Malaysia is increasing. Indonesia will increase.

From farmer's perspective, this has been the worst year in 18 years. Small farms are disappearing. Prices have been depressed for an extended period. Energy costs are high. Farmers are starting to look for alternative employment.

***Q: How soon can the Thai industry recover?***

Apart from financial and price issues, labor has left, may not return. Will take many years.

***Q: Any thought to relocating the damaged hatcheries?***

Best water quality in Andaman. 70% of production of shrimp in South. Hatcheries must stay close to farms on E coast.

**Thai Shrimp Association–Continued**

- ***Question and answer period–Continued***

***Q: Who introduced Vannamei to Thailand?***

Dr. Jim Wyburn(?) Ex OI researcher. President of Aqua Health company.
Thailand brought some from Taiwan and China, but disease problem.
HW: 80-90% survival. SPF.
Taiwan: 40-50% survival. Thai government stopped imports from Taiwan and China.

***Q: Was black tiger being replaced?***

30% is 2004; now about 10%. White shrimp came at right time before Thailand experienced a collapse like Taiwan. Productivity was declining. Now productivity is increasing. Black tiger will be less and less. Is unpredictable. Vannamei is predictable.

Contessa–there is a shift in the US market place, such as supermarkets, for a preference for black tiger. Texture is firmer. White is softer. Consumer feedback shows a preference for black tiger. Price is higher.

***Q: Effort in Thailand to develop a domestic vannamei broodstock program?***

Government is encouraging, but OI restricts use of broodstock. Not easy to grow in SPF conditions. There are R&D efforts. Industry prefers imports. Predictability.

***Q: What is considered small count:***

60-100. Whites usually finish at 41-50. Now trying to grow to 31-40. Not a natural size. Now can do because of temperature now. However, in winter, can't do.

***Q: Time line of the process?***

8-10 months from pl to broodstock; 1 month in hatchery to produce pl for growout; 4 month for pl to growout (16-18 gram), 5-6 months (22 gram).

***Q: Staggered?***

Yes. Weather can affect greatly.

***Q: Lag time to recover capacity, if all other factors were not a problem:***

8-10 months for construction; 12-17 months to grow shrimp. Individual motivation is a factor. Main Government responsibility now is infrastructure. Rebuilding homes. After that, tourist business is a priority. Hatchery workers are now working construction.

**Thai Shrimp Association–Continued**

- ***Question and answer period–Continued***

***Q: Any word about Government assistance to hatcheries?***

None yet.

***Q: Any capacity rebuilt of the 60% destroyed?***

Maybe 10% of the number of hatcheries rebuilt. Difficult to determine capacity, because of "backyard" nature of hatcheries. These can open and close quickly according to market conditions. Can open in a couple of weeks. Hatcheries that have been reestablished were those partly damaged. No recovery for those completely destroyed. Insurance not a standard practice.

***Q: Chances hatcheries not reestablished?***

Majority lease land. May lose out to developers for tourism.

***Q: Black tiger broodstock shortage. Why?***

Both because of damage to fishing boats as well as not as available in wild.

***Q. Estimates of when fishery may recover?***

No.

***Q: Who designed equipment and hatcheries:***

Local design. Use some imported equipment. US aerators (Ruud?).

***Q: Large corporations assist in rehabilitating or taking over hatcheries?***

No. Some owners died. Hatcheries and farms leased; must be situated close to shore.

***Q: Hatcheries and farms leased?***

Both.

***Q: What are landowners doing?***

If no one wants to lease, will stay idle. Hotels must rebuilt existing facilities before building new ones. Tourism demand is down.

**Thai Shrimp Association–Continued**

- ***Question and answer period–Continued***

***Q: Price versus cost?***

Cost for average size (60/kg), heads-on, about 125-130b/kg
Small farms costs are higher than medium farms because they use generators.
2-3 months ago, costs were higher than prices by 10-15 b/kg.
6-7% loss (heads-on basis).
Main cost is risk. Difficult to calculate. No insurance, financing.

***Q: Alternate crops or business?***

Rice not a good option–government mandates low price.

***Q: Price elasticity of supply?***

No estimates or studies.
50-60% profit is necessary for monodon (higher risk), 10-20% for vannamei.

***Q: How much finished product inventory was on hand when tsunami hit? Any left? How long did it take to be used?***

Proprietary, no information.

***Q: Farmers now growing larger size?***

Yes. Now have to pay premium for smaller sizes. 60-100 count scarce.

***Q: Impact on wild catch?***

Don't know. Caught both in Andaman and Gulf. 10% of total supply. Mainly for domestic market. TED restrictions. Some boats not certified. Most exports from culture.

***Q: Exports to the EU?***

In past, 33,000 mt out of total EU (15) imports of 400,000 mt annually.
Now, 15,000 mt out of 700,000 (EU25). If regain GSP preference, can supply 70,000 (10%).

***Q: Does ability to supply 10% of EU assume reconstruction?***

Yes.

**Thai Shrimp Association–Continued**

- ***Question and answer period–Continued***

  ***Q: Alternate markets for Thailand?***

  Eastern Bloc (Hungary, Poland); Russia; However, this is risky. Bankruptcies. Want to use cash ($), but Thai currency restrictions.

  ***Q: Quality of crops after tsunami?***

  Effect only on crop in place. No long term effect.

  ***Q: Will the fishermen move?***

  There is some seasonal migration anyway.

  ***Q: Thai government plan to buy shrimp at guaranteed price?***

  Loan guarantee program was proposed.
  Not more than 3 months in cold storage.
  Impact was mainly psychological. Stabilized market price, but not may participants.
  Commerce Ministry Bank–Exporters' Guarantees. Related to continuous bond. Exporters have cash flow shortage because of continuous bond.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Frozen Foods Association**
**Dr. Panisuan Jamnarnvej, Honorary Advisor, Director**

The TFFA is an association representing frozen shrimp processors and exporters. We were greeted by the President, Mr.Poj Aramwattananont, of Andaman Seafood Co.,Ltd. Mr. Aramwattananont could not remain for the meeting, which was hosted by Dr. Jamnarnvej, the Past President, who owns Pakfood PLC. We toured Pakfood's processing plant later in the week. The meeting consisted of a question and answer session.

***Q: Availability of raw shrimp to processors, both currently and in the near future?***

Thailand used to grow black tiger until 2002, when it switched to vannamei. In 2003, the Thai Department of Fisheries established a permit/quota system to import vannamei broodstock. Only 1 source for best quality vannamei-Oceanic Institute. After the tsunami, some operators used retained grow-out shrimp for broodstock with uncertain results. Also, some broodstock came in from China. Industry was concerned about impact on production. At the same time (Feb. 05), the continuous bond hit. Thai exports were uncertain as to how to proceed (Feb.-Mar.), and stocks were held back until they understood how it worked. Stocks recently have been flowing again. During the past 2 weeks, there has been a supply shortage of raw shrimp for processing. Prices are rising again after hitting bottom in mid-May 2005.

There are shortages of vannamei. Black tiger is now a specialty. Black tiger has been in decline since mid-2003.

Larger sizes are more difficult to obtain now. Farmers perhaps are leaving shrimp in ponds longer to achieve larger size and higher price, but white shrimp naturally don't grow that large and there would be an impact in productivity.

***Q: Did farmers use their own broodstock?***

When there is a shortage, prices rise for fry–freelance operators emerge.

***Q: Inventory situation pre- and post-tsunami? How much of exports was accounted for by inventory vs. production?***

Production was good in 4thQ 2004. Then they couldn't move inventories because of the continuous bond. Then the tsunami hit; production held and inventories rose more. Started moving again in April 05. Continuous bond questions clear now.

**Thai Frozen Foods Association**
**Dr. Panisuan Jamnarnvej, Honorary Advisor, Director–Continued**

***Q: Now continuous bond clear, easier to return to normal business?***

Exporters had to registered as importer of record and split the bond because importers couldn't handle all of bond. This depresses prices to farmers. Exporter must add 12-15 percent to price quoted to customers rather than 6-8 percent. This means lower price is passed through from processors to farmers. However, there is a current shortage of raw material, so conflicting trends. Processors caught in the middle–buyers have a maximum they will offer, farmers have a minimum they will accept.

***Q: What will happen during the next cycle?***

Shortages of raw shrimp will continue until the end of the year.

***Q: Reconstruction efforts?***

The association started a tsunami relief fund. Three million baht donated by processors and U.S. customers and channeled to the Dept. of Fisheries. This is a one-off fund.

Only 2-3 companies are integrated.

TFFA has instituted a program of sharing information with farmers and offering direct buying, long-term "contracts," which are like letters of intent to buy shrimp. Farmers can take to bank to get financing.

Processors can fail once every 4 years. Farmers can be affected by a single crop lost.

***Q: Damage to processing facilities, other infrastructure?***

No.

***Q: Location of processors?***

Mahachai: 50
Song Kla: 7-8
Other: 3-4

Largest processors are in Samut Prakong and Chanburi. Mahachai is traditional center, because it was a fish landing center. New processing plants generally are larger, and will locate outside of Bangkok closer to the farms. New plants will be mainly in the South.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Frozen Foods Association**
**Dr. Panisuan Jamnarnvej, Honorary Advisor, Director–Continued**

***Q: Government actions post tsunami to aid the shrimp industry?***

Initial actions aided fishermen and tourism. No specific programs for shrimp hatcheries/farms/processors. However, when prices declined, the government instituted a cold storage scheme. When the market price exceeds a government-set minimum, stocks will be auctioned off. When price is below, gvt. will hold stocks. A storage charge is deducted when stocks are sold. Only about 10,000 mt capacity for program. The impact is more psychological in order to assure markets.

***Q: May price drop?***

Exporters couldn't sell by mid-May 05. The price began falling in Jan.-Feb. Prices have risen recently, by 30-35%.

***Q: Ex-Im Bank credit guarantee program for exporters?***

The bond has to be posted with a US surety company. Wouldn't accept a letter of credit from a Thai bank–must be through an accredited US bank. Thai exporters needed collateral. A Thai bank needs a US partner to have a backup letter of credit. So, there are 2 charges. The ExIm provides credit guarantee as collateral.

Now Ecuadorian Seafood, a new US company, is the largest importer of Ecuadorean product. Point is that Thailand is losing market share to nonsubject countries.

***Q: Reaction of US customers post-tsunami?***

There are 2 kinds of customers–long term and short term. Three US importers donated to the relief fund. Price acceptance depends on the market. The retail sector is price sensitive; the HRI sector can bear a bit higher price (duty). Some customers perhaps shifted to a smaller size.

Indonesia and Malaysia are picking up the void. Some customers have gone to non-order countries because of the additional duties. There isn't necessarily an overall supply problem. Black tiger buyers have gone to Vietnam and India.

Thai exporters have lost sales because of the AD and CB.

***Q: Permanent market restructuring in Thailand as a result of the tsunami?***

There is a concern about the source of fry. Some processors are considering other species (mainly fish). Recovery will take a while–not this year. There is also a labor problem–superstition, fear.

**August 15, 2005**
**Bangkok, Thailand**

**Thai Frozen Foods Association**
**Dr. Panisuan Jamnarnvej, Honorary Advisor, Director–Continued**

***Q: Profit margins?***

Shrimp is not a high margin product. 2-2.5%.

***Q: Impact on employment?***

Season starts in mid-April, after the Thai New Year. The tsunami delayed recruiting and resulted in lower hiring levels, not necessarily layoffs. 700-800 workers in 1st quarter, rises to 3,000 by end of year.

***Q: Export projections?***

Before AD and tsunami: Projected a 3% rise in per capita consumption.
After: Consumption declined.

2005 projection: mixed. Big, integrated companies see opportunity, smaller processors may follow suit. Smaller processors are bidding up price to obtain supplies committed to larger processors.

2006: Uncertain. After this year, smaller processors who didn't prepare for the AD review (to get a lower margin) could go under or become a contract packer for those who got lower rate.

***Q: Impact on broodstock?***

Broodstock is expensive. Must be ordered ahead. 3 males to 2 females ratio. Many barriers to entry in broodstock sector.

The industry will get a new batch of broodstock (2 years old) later this year. Will see impact then.

***Q: When were the held inventories shipped?***

Shipped 2nd half of June after the continuous bond was sorted out. Most shipments pre-June were from inventories; new production starts in mid-May.

***Q: What is inventory time-line?***

Stocks represent 3-4 months of supply. There is a 1-year shelf life.

**August 15, 2005**
**Bangkok, Thailand**

**Department of Foreign Trade, Ministry of Commerce and Department of Fisheries, Ministry of Agriculture and Cooperatives**

Nuntawan Sakuntanaga, Deputy Director-General, Dept. of Foreign Trade, Ministry of Commerce

Waritchanant Towongpaichayont, Senior Trade Technical Officer, DFT

Nadhawan Tanyongmas, Trade Technical Officer, DFT

Dr. Jaranthada Karnasuta, Deputy Director-General, Dept. of Fisheries

Chul Sinchaipanich, Senior Fisheries Biologist, Dept. of Fisheries

Dr. Siri Ekmaharaj, Senior expert on marine shrimp culture, Dept. of Fisheries

Sompong Nimchuar, Director, Fisheries Affairs Division, Dept. of Fisheries

This meeting also consisted of a question and answer period.

***Q: Availability of wild-caught shrimp, particularly broodstock?***

Monodon broodstock is caught in deep water. Less affected by tsunami. Any decline was because of damage to vessels, not a water problem. There has been no biological study yet; still collecting data.

***Q: Thai gvt. damage assessment; rebuilding efforts?***

Damage in affected areas was mainly to hatcheries. Most were located on Andaman side–best water quality. The Thai gvt. was unable to provide funds for rebuilding, but is talking with banks to provide low-interest loans. Shrimp prices are low now, so banks are unwilling to provide loans. Prices need to improve to provide incentives for recovery. The change in EU GSP status for Thailand is a positive development.

***Q: Broodstock R&D?***

There is a disease problem. Monodon are difficult to raise in captivity. White shrimp are easier, particularly for smaller sizes. Cannot commercially produce vannamei broodstock in Thailand yet–only 3 generations so far. But R&D is continuing. 6 companies are certified to export vannamei broodstock to Thailand–5 in Hawaii, 1 in Florida.

**August 15, 2005**
**Bangkok, Thailand**

**Department of Foreign Trade, Ministry of Commerce and Department of Fisheries, Ministry of Agriculture and Cooperatives–Continued**

***Q: ExIm Bank credit guarantee program?***

The continuous bond is doubling the amount paid. Importers must pay a bond for each shipment plus a calculated addition based on an estimated annual total level. There are fees to surety companies, US banks, Thai banks. Under the program, the ExIm Bank guarantees the payment from the Thai bank to the US bank. Terms are better.

***Q: Cold storage program?***

The government will take shrimp, store it, and release it when market prices rise.
1,800 mt in the program.
Program resulted from the delay in the EU GSP status.

***Q: EU GSP?***

EU GSP–the EU keeps promising preference, but postpones action. This has put pressure on prices. The EU says it will give GSP preference back in August; will be retroactive. It is in the last stage of approval.

***Q: Thai gvt. projections for export levels?***

This is in the Thai gvt. submission. Initial Thai government submission to the Commission anticipated more significant recovery/rebuilding would have occurred by this time. Expectation for mid-2006 recovery was based on the earlier assumptions. However, after viewing the affected facilities, it is apparent that there has been no recovery yet. Infrastructure is in place, but certain facilities are still damaged. The gvt. is concentrated on helping the poor first (triage). It expects business people to find own assistance. The gvt. is encouraging banks to provide lending.

***Q: NGO efforts?***

NGO help has been general, humanitarian. Not directed to shrimp industry. They are rebuilding housing.

***Q: Thai gvt. plan?***

The gvt. is considering what to do; no specific plan is in effect.

***Q: Projections about Thai gve. humanitarian support–Time line?***

The initial focus is on relocating people inland. There is a reluctance to return; people are frightened. This may be a labor issue.

**Department of Foreign Trade, Ministry of Commerce and Department of Fisheries, Ministry of Agriculture and Cooperatives–Continued**

***Q: Land tenure issues?***

Land tenure is uncertain. Hatcheries generally on multi-year leases.

***Q: How quickly can the industry improve?***

If money, labor, equipment were available, there are no other issues. The industry is private sector–the gvt. will leave alone.

***Q: Ability of hatcheries in other regions to fill the void?***

Hatcheries in the affected area are only 30% of the Thai total. Eastern hatcheries can produce more. However, the quality is lower because of lower water quality. Yield is lower.

***Q: Any data on the effect on production? Are Eastern hatcheries increasing production?***

Yes–no data on hatchery production, but the production of shrimp meat has not declined very much after the tsunami.

***Q: Tsunami effect on water quality?***

No answer was provided.

*Note.–Representatives of the Department of Fisheries were unaware of the 3 million baht donation provided by the Thai Frozen Food Processors Association and U.S. importers to the hatcheries. The funds were channeled through the Department of Fisheries, according to the Association.*

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 1**

This visit was to a cluster of several shrimp hatcheries/nurseries located together in Phang-Nga province just north of Phuket. They consist of concrete tanks located near the sea. Notes are somewhat fragmented, as the interviews were conducted onsite on foot, and team members often split to talk with different people. Also, it is not always possible to match the owner with the specific hatchery. However, the general information is consistent among owners/hatcheries, since they are all located at the same site.

***Lamduan Farm***

18 years old.
14 employees–7 killed by tsunami.
20 million baht investment lost.
Last sale–beginning of December.
Hatcheries were running full capacity. Total loss.
Water quality is better in Phang-Nga than in Phuket.
Capacity–50 million post larvae per month.
50% vannamei; 40% monodon.
Owner plans to stay if he can get financing.
Was selling fry to farms on credit. This is a common practice, as farms wait to determine survival rate to pay.

***Hatchery 2***

Capacity–700-800 thousand pl/mo.
Need 1 million baht to rebuild 10 "ponds."
23 ponds before tsunami.
Banks refuse financing. Won't say why.
Workers are afraid to return. Owner believes they may return when times improve.
Will take several years to return to normal if money is available.

***Khun Surasak Chongratamapimolkal, Kittikorn Farm***

16 ponds
5 diatom tanks (for feed)
1 monodon broodstock tank
3 hatchery tanks
10 artemia tanks (for feed)
1.5 mil nauplii/mo/pond
50% survival rate
100 nauplii/liter

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 1–Continued**

***Kuhn Vichai Srimai, Burapa Farm***

24 ponds.
Lost boat (for monodon broodstock collection).
New boat will cost 3 million baht.
16 meters long, 3 meters wide.
330 hp diesel.
Gvt. plans to set up a review committee to assess damages to hatcheries.
Gvt. gave 140,000 baht for the boat, 20,000 for the hatchery. Used the money to rebuild house.

***Entire complex***

11 farms/owners.
110-120 mil pl/mo. capacity.
10-11 mil. baht/mo. gross income pre-tsunami.
20% margin, including labor and land.

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 2**

This visit was to another group of hatcheries/nurseries.

***Kuhn Chokchai Sermsirimanont, AA Ocean Farms***

10 years in shrimp hatchery business. Was in growout business for 10 years prior.
12 hatcheries destroyed, 3 locations including this one.
16 ponds each.
Loss–26 million baht. Received 900,000 baht from the government.
60 mil pl/mo., all vannamei.
300,000 baht to replace 1 transformer.
Need 8 million baht to start 3-4 units.
Hoping to start next year.
Owns some land to use as collateral.
Rental land: 200,000 baht/yr. For 16 ponds (1 unit). 2 rai.
Running at full capacity when tsunami hit.
Lost 60 mil pl., 800 pair of broodstock.
Broodstock from HW–need 2 month lead time.
2,000 pair broodstock for all units. Last for 5 months. Will order 400 pair to start.
Still has labor; they currently are working on rubber farms, etc.
6 dead, 1 missing. Workers got a lump sum payment after tsunami.
Workers paid well compared with alternatives. Highly skilled, uneven hours. Profits depend on care given to shrimp; survival rates.
Average survival–30% to break even. Average 60-70%.
Prices:
0.12-.013 b/fry usual. Now .09-.10. AD effect about .03.
Shortage of fry now. No price effect yet. Still determined by meat price.
Buyers order fry 1 month in advance.
6 crops/yr. for each unit.
Customers prefer his product–own broodstock, higher quality. He gets premium of 10-20% over other suppliers.
His customers are getting fry from other suppliers.
Total Thai shrimp meat production suffered from taurus syndrome. Same in 05 as in 04.
He still owns growout farms. Supplies both his own and others.

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 2–Continued**

***Thab Tawan Farm***

This is a larger hatchery/nursery belonging to the CP Group, an integrated shrimp processor/importer. CP is also a feed producer and is involved in other products, including poultry. CP also has shrimp operations in India, which staff visited.

400 mil.pl/mo. total CP capacity; 70-80 mil at this facility.
300 mil. capacity damaged, not reconstructed yet.
This location formerly was a resort area damaged by the tsunami. It is also used as a training center for farmers.
Total land on 70 rai. 12 rai reconstructed.
140 million baht loss.
125 workers before tsunami; 100 now.
Local workers have been helping their families; not as available now. No dormitory here
It will take 1.5-2 years to regain full capacity. There is a shortage of construction workers, as the hotels are also rebuilding.
Broodstock: lost 4,000 pair. Import from HW, FL. Now have 1,200 females.
Price: .10-.12 baht/fry for good quality. Now .07-.08.
They had insurance to cover most of their damages. Unusual.
Constraints to recovery:
- –Broodstock availability (4 months to replace).
- –Water quality issues

Labor costs increased. Pay 10-20 baht more than minimum wage after the tsunami. Before, paid minimum.
Automation–can't do in hatchery–skill, art. Perhaps can for growout stage.
Growout farms: still operating, but at reduced levels. Typically account for 30% of CP's production of processed shrimp.
Customers are still on partial allocation.
CP advantages:
- R&D, new technology.
- Training of customers.
- Financing. Can get internally.

Production=>growout:
- Vannamei–use 3 times more than monodon.
- After tsunami, less monodon. Boats destroyed, less catch.
- Production totals 50-55 thousand mt, heads-on, last year. Up from normal of 30-35 thousand. Acquired leases from abandoned farms, and yields increased. 3-year leases–will return to other farmers eventually.

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 2–Continued**

***Thab Tawan Farm–Continued***

Impact of AD order:
- Shrimp meat price declined.
- Price transmission backward to hatchery.
- Fewer players in the market.
- Efficient operators remain.
- Difficulty getting fry now–lower supplies.
- Price for fry dropped from .20b to .12b per fry because of drop in meat price.
- No specific mention of AD from their customers.

Energy prices have increased.
Thai gvt. doesn't allow imports of monodon broodstock.
There currently is a problem with taurus syndrome in monodon because of smuggled broodstock.

***Bam Nam Kem***

Tinnakorn Hongsu, Siam Chai Farm
Mayuri Suwanarat, Tanawat Farm
Ampon Lolian, Suprungreung Farm
Rojana Farm
Phurida Sakwanakarn, Pakawat Farm
Orawan Puangthong, Orawan Farm

This visit was to an area consisting of 12 hatcheries. Several owners queued for the interview. All 12 hatcheries experienced a total loss in the tsunami. Some of the hatcheries had broodstock at the time of the tsunami. Combined capacity was 120-150 mil. pl./mo.

***Siam Chai Farm:***

15-20 mil pl/mo average capacity.
In business 15 years.
Can find finance, but need confidence to know market is good.
Financing from banks, black market. Black market interest rate is 60%. Banks have mentioned AD order.
Will take 2 years to recover.
Farmers wish to stay–labor will be no problem. All owners agreed.
Will try to get insurance after rebuilding.
Breakeven price for pls:
- .12 b minimum. Price is .10 now. Price just before the tsunami was .06. There was an oversupply.

Producing mainly vannamei now. Monodon catch–not aware of a problem post-tsunami.

**August 16, 2005**
**Phang-Nga, Thailand**

**Hatcheries/nurseries visit 2–Continued**

***Orawan Farm:***

Asked for 2 mil. baht loan from bank 3 months ago to rebuild. Prices are low now. Bank mentioned the AD order.
The land was owned and used as collateral for a previous loan. Borrowed 400,000 baht–can now only pay the interest.
Capacity–18 mil pl/mo
24 ponds, 7 artemia tanks
5 workers before tsunami. All died in the tsunami. May be difficult to attract–afraid.
15 years in business. Started with a growout farm.
Price: need .12 b/fry. Dropped from .18 to .12 because of energy costs.

**August 17, 2005**
**Phuket, Thailand**

On the way to the first appointment, Mike Delaney informed us of a support program announced by the Thai government to help with tsunami relief. The support consists of a 48 billion baht low-interest, "soft loan" program. As of Aug. 10, 25 billion baht had been made available, 400 million baht to the fisheries. 200 million baht has been drawn down. More than 90 percent of the loans have been for boats and equipment. There have been no hatchery loans, mainly due to collateral issues.

***Piyawdee Farm***

This hatchery/nursery complex was protected by man-made sand dunes, which lessened damage. However, damage was still extensive.

120 ponds affected; 107 ponds not affected.
Land is leased-5yr. term.
Capacity before tsunami–150-160 mil pl/mo in the 120 affected ponds. The unaffected ponds were not in use at the time.
Banks won't loan because of lack of collateral.
Owner will try to repair damage. May be able to regain some capacity in 6 months.
Customers buying from unaffected hatcheries. There is a shortage of pls.
Banks mention that prices are low.
PL price–needed 0.12 baht/fry before tsunami. Now needs .14 because of increase in petrol prices. Prices now are .08-.09.

***Para Farm***

This is a growout farm.
22 ponds on 190 rai complex. 120 rai for ponds and dikes.
In business 15 years.
This is a medium size farm. There are 3-5 farms on Phuket the same size. The largest farm is 40 ponds.
There are 40 growout farms on Phuket. 5 medium, 2 large, the rest small.
Capacity: Pre-tsunami–260 mt/yr (heads-on). Jan.-Aug. 05–90 mt.
Used 24-25 mil pl/yr in 2004. Now can only get enough pl for 16 of 22 ponds.
Availability of pl for next crop will be difficult. Price of pl has gone up, price of shrimp has gone down. Plan to use only 10 ponds the next crop. Uses all vannamei.
Price of pl now .12-.15.
Quality of pl: survival rate declined after tsunami. Improving now.
Lost 12 ponds of fry in tsunami, estimated at 8 million baht. No insurance.
Current shrimp prices: 55/kg: 110-115 b/kg. Pre-tsunami: 170-180 b/kg.
Sales are through brokers, who sample and bid. Typically there are 7-8 brokers. Now as many as 20.

**August 17, 2005**
**Phuket, Thailand**

***Para Farm–Continued***

Financing:

8 mil. b loss for fry. Borrowed 10 mil. b and put up land and house as collateral. Last crop had low price and resulted in a loss. However, situation with bank is stable.

Pl sources:

Buys from 6-7 hatcheries. Pre-tsunami from Andaman, now from East coast. Survival rate is lower now because of stress from longer transport.

80 employees. Same as before tsunami. Retains because of need for skilled workers.

Recovery:

Many factors:

Price for fry and shrimp.
Survival rate
Fixed costs-preparation of ponds. Was 200-300 thou b/mo per pond, but now 400-500 thou.
Water quality is OK now.

Can fit 9 more ponds, at 3-5 rai apiece, in complex.
Maximum shrimp size–40/kg. Constrained by pond size. 50-55 average. Shrimp prices affect timing of harvest. 50-60% yield average.
600,000 b/mo. for electricity.

***S.P. Farm***

This is another growout farm.
120 rai.
Partnership. Land is leased. 14 ponds
Production: Pre-tsunami: 200-300 thou mt/yr (04). YTD 05: 100 mt
15 pond workers, 25 total pre-tsunami. Only half of the pond workers remain.
Currently, 7-8 ponds operating.
Pl used: 28-30 mil pl/yr (04). YTD 05–7 mil. Difficult to obtain.
Source of fry: Wants to stay with know suppliers because of quality, disease concerns.
Not using all ponds because of low shrimp prices and shortage of pls.
Pl price: pre-tsunami–.15. Now .11-.15. Shrimp price: pre-tsunami–47/kg: 180 b/kg. Now 160b/kg.
Hatcheries know shrimp prices are low and are accepting lower pl prices. This farm pays a premium to obtain quality pl.
Some damage to a dike. Was repaired at a cost of 4 mil. baht. Received a bank loan. Used other businesses as collateral. 5% interest.
Shrimp prices are low now because of export problems; AD.
Sells through brokers at an auction. Sometimes 3-4 brokers, sometimes 10.
Prices are set based on information from other farmers.
Pace of recovery is uncertain. Depends on shrimp prices.
Buys from 4 hatcheries. Only 1 is left, and it is not fully recovered.
Only uses Vannamei.
In business 18 years-bought existing business. This was the 2nd or 3rd farm in the area.

**August 17, 2005**
**Phuket, Thailand**

***Phuket Hatchery***

This is one of 4 hatchery/nursery complexes belonging to the same owner. Each complex experienced damage. Damage at this one has been cleared, but not repaired.
At location visited, 200 ponds before tsunami, 100 now.
All land is leased. Long term-5 to 10 years. Owner broke the lease for the 100 damaged ponds.
Total for all 4 complexes:

400 ponds before tsunami; half damaged.
Had broodstock in all complexes. Lost 3,500 pair. All vannamei. Only replaced 300 pair.
Only 25 percent of growout farms (his customers) are operating.
Out of his 200 non-damaged ponds, only 35-40% are still in operation.
Condition of the water quality has changed. Mineral content. Will take 3-4 months to return to normal.
Losses total 20 mil. baht, not counting opportunity costs.
Pl prices: pre-tsunami–.14. Now .09.
Labor: Before tsunami, had 120 workers. Now 60. Kept most of the skilled labor. Some quit out of fear, some because of fewer orders. Some experienced labor quit to get higher pay.
Financing: Used own money and from relatives (high interest). No bank–banks cited risk.
Also owns 2 hatcheries in the East, 2 in Satun (south).
Fewer orders because shrimp prices dropped. Processing plants are affected by the continuous bond.
Pl availability is a problem for growout farms.
Will take 2 years to regain former levels.
In business for 14 years.
Used monodon before vannamei. Broodstock are at another location because of water quality. Broodstock at 60% of capacity.
Pl are ready to sell after 22 days–growout farms prefer. Survival rate is optimum at this stage. Older results in higher mortality during transport.

**August 18, 2005**
**Bangkok, Thailand**

**Food and Agriculture Organization of the United Nations**
**Regional Office for Asia and the Pacific**

**Derek Staples, Senior Fisheries Officer**
**Simon Funge-Smith, Aquaculture and Inland Fisheries**

The meeting consisted of a PowerPoint presentation and a question and answer period. The PowerPoint presentation will be entered into the record. See the PowerPoint presentation for details.

Some points made during the ppt presentation:

- There may be some under reporting of damage to hatcheries because of the low compensation level.
- The Thai Dept. of Fisheries can give official data on crashing wave damage.
- Advances in management and technology are being overridden by price factors.
- Some points were made about India:
  - Network of Aquaculture Centers of Asia-Pacific, Dr. Mike Phillips
  - Lower intensity of culture.
  - More sensitive to downturns.
  - Lower stocking density (5-10/sq m opposed to 25-50 in Thailand)
  - Monodon opposed to vannamei.
  - No SPF hatcheries.
  - Focus on longer crop, larger size, higher price.
  - Lower labor, less aeration

***Q: Ability of undamaged hatcheries to increase pl supplies?***

Hatcheries usually at full capacity. There would be a lag time for new construction of farms or tanks.

***Q: Quality of east coast pl?***

If vannamei, quality should be similar. W coast more quality conscious. E coast, especially south, is more artisinal. Can't produce vannamei.

***Q: Impact of tsunami on total Thai production?***

Will be reduction; many causes.

**Food and Agriculture Organization of the United Nations**
**Regional Office for Asia and the Pacific–Continued**

**Derek Staples, Senior Fisheries Officer–Continued**
**Simon Funge-Smith, Aquaculture and Inland Fisheries–Continued**

***Q: Recovery time?***

Could take 2 years. 3-crop lag. Confidence is important. 3-6 months construction, 90-100 day growout cycle. Price peaks at Christmas and Chinese New Year. Industry will target this period. Hedging and withholding of supplies. Need financing, but there will be ample capital if confidence returns. Relatives will liquidate other assets to provide capital. Response mainly based on price signals. AD not only problem. Competition with Indonesia, China. Many see the reintroduction of monodon–larger size, cheaper, more available.

***Q: Price forecasting?***

Infofish doesn't do. Commercial market intelligence sites are very good.

***Q: Broodstock?***

Was a limitation prior to the tsunami. Competition for SPF from other countries. Preference is from US sources (HW, FL). Thais are very sensitive to disease issues.

Need 3 good years of profits to justify investment.

No distinction has been made between catastrophic and repairable damage in official figures.

***Q: Thai gvt. support?***

Very little historically. Some R&D assistance. Money is from NGOs. Not much for shrimp. Fishing boats/gear. Not shrimp farms. Hatchery operators want loans. Are very independent.

**August 18, 2005**
**Samut Sakhon, Thailand**

**Pakfood Plc.**

Pakfood is a shrimp processor located outside Bangkok. It was a last-minute substitute for Royal Frozen Food. The plant is run by Dr. Panisuan Jamnarnvej, who hosted our interview with the Thai Frozen Foods Association. The visit consisted of a presentation, a Q&A period, and a plant tour.

There are 57 frozen food packers in the Mahachai area, about 30 of which do shrimp.
CO2 IQF machines–only pay for CO2, not the machine, if use above a minimum amount.
Plant also produces canned crabmeat.
Plant is certified for EU (traceability), Japan, US (HAACP).
On site QC lab.
2,000 peak workers, 1,200 now.
Input- 5 mt/day (heads-on) now. Peak 120 mt/day. Average 65 mt/day.
Shrimp availability post tsunami is a problem.
Prices: June 05–135 b/kg, now 165. Continuous bond cited for low price. Prices increased after Pakfood became importer of record and shared in the bond cost.
Inventory holding time: 3-4 months.
June–broke record for quantity of raw shrimp purchased.
Sales volume during Jan.-May is higher in 05 than in 04.