Database on shrimp processing waste from organized shrimp processing sector in India

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Shrimp is mainly pre-processed as head on shell on (HO), headless shell on (HLSO), headless shell less (HLSL), peeled deveined (PD) and peeled un-deveined (PUD) in the organized shrimp processing sector in India. These processes generate huge quantity of shrimp processing waste, which can be further utilized for the development of value-added by-products like chitin and its associated derivatives. The quantity of shrimp processing waste generated was integrated into a database to provide an overview of year-wise and item-wise shrimp processing waste generated. This database developed in Microsoft Office Access (MS Access) and would help the user (students, researchers, academicians and policy makers) to retrieve and analyze the shrimp processing waste generated. The design of database included formulation of tables to store data, queries to search and retrieve data and an administrative panel form to view, add or update the data records in the tables and report generation to analyze and print data in specified formats.

Design of Tables

A database comprises of one or more tables. Each table stores data as rows and columns. The horizontal entities are called rows and represent a record, for example here each row holds particulars like year-wise shrimp processing waste generated from the processing of items such as headless shell less, headless and shell on, peeled deveined and peeled un-deveined and total shrimp waste, all in the unit of tonnes. Similarly, the vertical entities are called columns and they hold a specific type of data such as numeric, dates or text. The data fields are year, HL (Tonnes), HLSO (Tonnes), PD & PUD (Tonnes) and total shrimp waste (Tonnes) are declared as numbers. Each row is uniquely identified using a primary key. Here, in the data field year is the primary key and it uniquely identifies each record from the shrimp processing waste database table. Table design for shrimp processing waste is given in Figure 1.

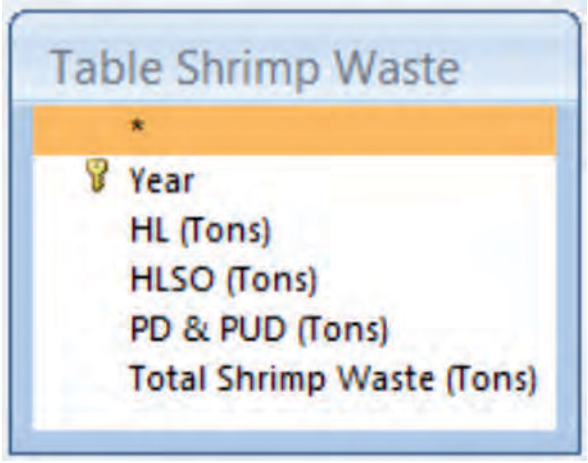

Fig. 1 *Table created for the database*

Design of Database Queries

A database query finds and retrieves data that meets specific search conditions. It permits the user to search, compile and retrieve data from the database. Queries can also be designed to create, read, update and delete the database tables. Query to retrieve all the data records from the database was created. Similarly, queries are designed to retrieve year-wise data, period-wise data, item-wise, HL – period-wise data, HLSO – period-wise data, PD & PUD – period-wise data and total shrimp waste – period-wise data.

Design of Database Forms

A user interface form was created in the database application. It helps the user to view records under different category. Figure 2 shows the user panel form. Form controls are provided to direct the users to generate various data reports like general report, year wise report, period wise report, period wise report of total shrimp waste etc. An administrate forms also designed for the admin to ease the process of data entry, editing and updating the data points at any point of time.

Execution of Database Reports

The user interface helps to generate various types of reports to various queries. A Report in a database is the object for formatting, calculating, printing and summarizing selected data from the database. Reports can be generated from any table or query. Here, reports are designed to retrieve customized database queries such as general report, year-wise report, period-wise report, period – HL-wise report, period – HLSO report, period – PD & PUD report and period – total shrimp waste report.

Sample period-wise report generated for the period from 2001 to 2010 is given in Figure 3. Buttons are provided to export the contents of report to external document formats in the forms such as PDF/ Microsoft Excel/ Microsoft Word, enabling the user to save reports to their local device. The database is available with the agricultural knowledge management unit (AKMU) of ICAR-CIFT, Cochin.

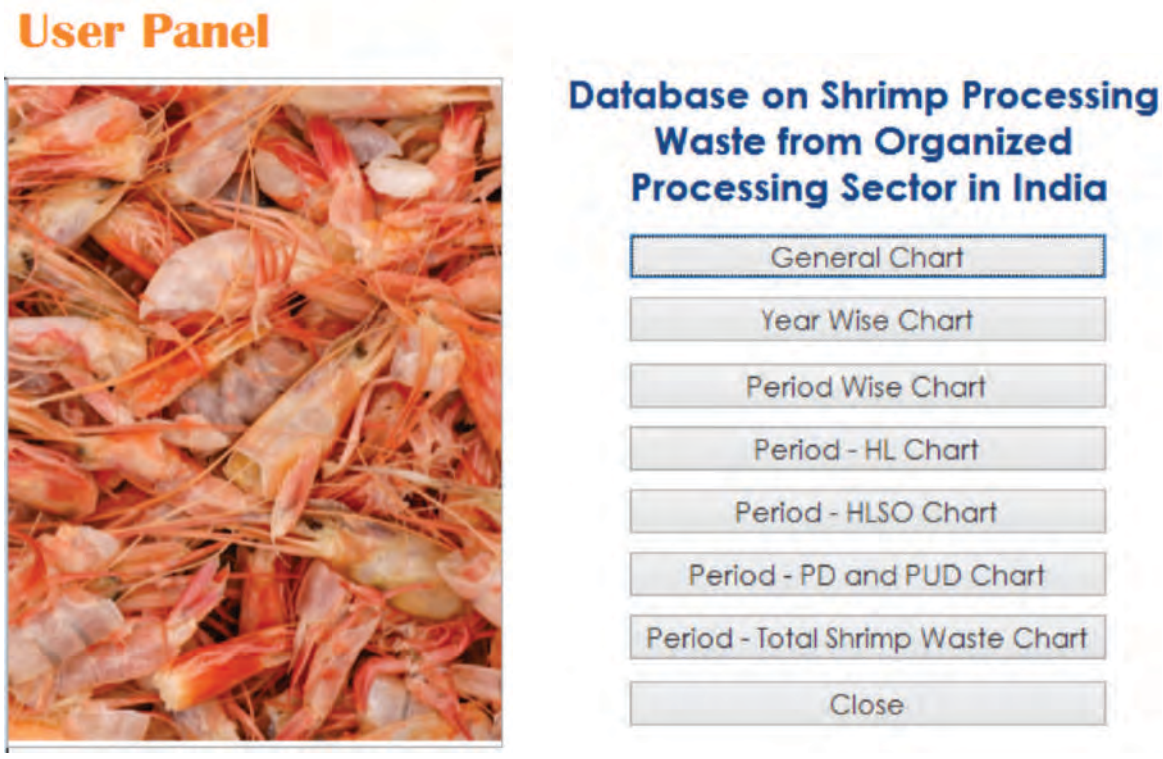

Fig. 2 *User panel Form of the database*

Period Wise Chart

Year	HL (Tonnes)	HLSO (Tonnes)	PD and PUD (Tonnes)	Total Shrimp Waste (Tonnes)
2001	127439.9	0	268.859	127708.7
2002	70339.03	0	54177.01	124536
2003	62914.09	0	54939.33	117853.4
2004	56778.71	0	50020.26	106799
2005	206315.9	0	107759.6	314075.5
2006	47595.96	0	43776.39	91373.35

Fig. 3 *Sample of period wise report*

Reference

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