

MARINE ENGINEERING EDUCATION IN SRI LANKA

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HISTORICAL BACKGROUND

Marine Engineering education in Sri Lanka was mainly based on the Special Engineering Apprenticeship programme in Ports Authority (former Colombo Port Commission) and several other private establishments engaged in the marine repair industry until the National Diploma in Technology (NDT) course in Marine Engineering was commenced by the University of Moratuwa in 1978. The main focus of the special apprenticeship programme and the NDT course were to train middle level marine engineering technologists for the operation and maintenance of marine machinery systems in ships and in ashore based marine industry. Today, there are several courses conducted by the state and private sector at the same level, complying with the standards laid down by the International Maritime Organisation, STCW 95, for the operation of marine machinery systems on board ships.

Managerial and engineer level positions in the marine engineering industry, which are quite few at present, are mainly occupied by Mechanical Engineering graduates either with postgraduate qualifications in Marine Engineering or experience in the relevant industry

PRESENT LEVEL OF SRI LANKAN MARINE INDUSTRY

Marine Engineering related industry has grown at a slow phase over the years and at present include the following areas:

- Ship design and building
- Ship repair work (Hull and Machinery repair)
- Marine survey
- Specialized land based industry work that requires marine expertise.

Ship design and building work in Sri Lanka is a fast developing industry within the private sector. Ship design and building work is solely carried out by Colombo Dockyard Ltd. and their work includes the designing and building of medium size vessels with steel and aluminium hulls while Boats and pleasure crafts, which are generally of fiberglass construction, are designed and built by several yards owned by other private establishments.

Ship repair work including drydock repair work in Sri Lanka is mainly done by Colombo Dockyard Ltd. where facilities and the technology for such work have been developed over the years. Few other organizations are also engaged in ship repair work which are mainly concentrated on afloat and underwater repair work.

Marine survey work is conducted by several Classification Societies in the ports of Colombo, Galle and Trincomalee and this survey work is extended to the land based industry too.

The specialised land based industry work that requires marine expertise include pressure vessels, piping systems, thermal systems and power generation and these work has grown in the recent past with the increase of thermal power generation in the country.

Few Government establishments like Sri Lanka Ports Authority, Sri Lanka Navy are also engaged in marine repair work of a large fleet of medium to small size vessels and crafts which are owned operated by them.

THE WORLD SCENARIO

The shipbuilding industry has grown in volume and in the application of advanced technology over the last few decades. Extensive research in to the designing of new hull forms and machinery systems are taking place, triggered by the economic reasons as well as legislations imposed by the international bodies. Main technological blocks in the world; Western Europe, USA and Japan/Korea are playing a major role in these developments and in the shipbuilding industry. Shipbuilding has transformed from a labour intensive low technology industry to a high technology industry. Development in the offshore industry has taken place at a rapid rate over the last few decades and various peripheral services associated with the offshore industry have also developed.

EDUCATION TO MEET THE DEMAND

Existing middle level courses in Marine Engineering are geared to produce 'seagoing engineers' and their function is the operation and maintenance of marine machinery systems onboard ships. The demand for this level is adequately matched by the state and the private sector training organizations. Education and training standards for seagoing engineers have been strictly laid down internationally (STCW 95 Convention of IMO). Avenues for acquiring higher qualifications for seagoing engineers are available to a limited extent in Sri Lanka, but larger numbers seek overseas qualifications.

Ship repair and maintenance industry and the marine surveys are mainly handled by the engineers who have retired from their seagoing career, as they possess long experience in the similar type of work. There is a scope for graduate engineers in these sectors and specially, the marine survey field where young graduate engineers are preferred to take up such work after a period of relevant training.

Graduate engineers play a predominant role in the ship design and building industry and in specialized land based industry that require marine expertise. Considering the present level of activities of the industry in Sri Lanka, the numbers of graduates that can be absorbed are very limited and a conduct of a university undergraduate course in marine

engineering is not justified when the economics of conducting a separate course is considered. However, considering the present demand and the projections to the near future, specialization in certain areas of Marine Engineering in the B.Sc Engineering Mechanical Engineering curriculum need to be considered at this juncture.

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