CHANGING CONSUMER PERCEPTIONS

Thinking Beyond the 4 x 2

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How do we dispel the myth which may have been exacerbated recently be architectural styles and inappropriate building practices?

Firstly we will explore briefly the historical position of timber usage in New Zealand, the way it has performed and the reasons why. Next we must understand the unique properties that timber has. Then we will promote some propositions for a way forward to rebuild consumers, architects and specifiers confidence. These will cover what we, as an industry, can do or should do to add value, promote and educate the consumers, specifiers and users of timber as the preferred material of choice for house construction in New Zealand, not only as framing but claddings and linings as well.

Is Wood Good?

Historically NZ has a tradition of building from timber, locally sourced, in methods of construction that have lasted the test of time. Take the excellent examples of fine Victorian villas and mansions dating back to 1890's.

The consumption of the indigenous timbers was non-sustainable. With plantation planting and forestry management a renewable sustainable resource has evolved.

The size of the New Zealand log harvest has increased 3 fold in the last 30 years to over 22.5 million/m^3 in 2003. Of this over 14 million/m^3 was processed in NZ. The sawn timber production component was only 4.4 million/m^3 with an apparent total consumption of approximately 2.7 million/m^3 that year of which 1.8 million/m^3 was exported. (www.maf.govt.nz)

A summary of Australasian timber use is provided in a Jaakko Poyry Business Case Study 2003 (www.fndc.govt.nz) in which they found the following:

- Radiata Pine predominately used for all framing in New Zealand and Australia
- NZ and Australia are primary markets for NZ produced lumber
- Framing accounts for 40-50% of total consumption of sawn timber
- In 2001 NZ consumed 2.7 million m^3, Australia 3.5 million m^3, of sawn softwood
- For the decade ending in 2001 there has been a steady increase in consumption in Australasia from a combined 4.3 million m^3 to 6.2 million m^3. Most of this increase was in Australia.
- Caution needs to be had for exporters as Australia moves towards self sufficiency with a forecast of becoming a net exporter of sawn wood within a decade
- Construction follows macro-economic trends (Strong economy means strong construction activity).
- Steady demand anticipated in the future especially in alteration and addition market
- NZ manufacturers will require a more efficient and cost competitive approach to the market
- Exports are an important strategic position to maintain for the NZ manufacturers
- NZ is cost competitive with Australia, especially on the east coast where inland transportation is not required.

The application of this summary of findings can be related to the size of the New Zealand housing market. The size of which can be determined from reviewing Building Consents Statistics (December 2005 Statistics NZ). In 2000 the total dwelling units consented was over 20,000, and last year over 26,000. This includes new apartments which were 2459 and 3837 respectively.
Architect designed stand alone housing generally accounts for only 6-10% of all houses. This would suggest architects designed somewhere between 1300-2200 houses in 2005. With so few houses by Architects then who is building all the houses? Individual and group builders along with developers of subdivision land and the government. These players are targeting the mass market of 90% of all housing.

Even today, as we did at the turn of the last century, we have a preference for timber framing although this could be changing. In 1999 a BRANZ study indicated 95% of stand alone residences were built with a timber frame whereas in 2005 this had slipped to 92%.

A competitor in the framing material market is steel which has surprisingly made little overall impact. Although a 40% increase from 2000 to 2004 was indicated in a BRANZ survey (Build October 2005) of houses with steel framing, this was only up to 0.7% of new houses. That is about 170 houses per year. In multi unit residential construction it is likely to be closer to 2% or 140 dwelling units. This can be compared to over 50% of new non-residential buildings being steel framed.

The change away from timber framing can be associated with the style of architecture that is currently preferred, as well as a response to the leaking buildings syndrome highlighted by media attention.

So what does this mean for timber use in New Zealand? So far the numbers suggest timber is holding its own but we must promote its use not to lose market share as alternatives become more competitive and the perception that there are problems with timber takes hold.

As architects we are seeing a demand for larger houses and more solid forms of construction normally associated with commercial techniques. The likes of concrete walls and concrete upper floor construction provide a solid feel with a reduction in noise perception.
The perception that timber as a commodity is to blame in the leaking building syndrome has been brought to the forefront of public awareness with media attention.

The timber in good examples of older housing is usually dry and durable therefore lasting the test of time. Exposure to excessive moisture is timbers enemy. This is the concern with our current spate of leaky house syndrome.

If the moisture is kept out or allowed to drain properly the framing will remain stable and perform as intended. The monolithic claddings systems in general rely on the coating system to provide the water barrier to the building. When this breaks down water ingress is likely.

The second line of defence in construction should be drainage of the system when moisture finds its way in. With drainage and ventilation the framing can remain dry and fit for purpose. Allowing the building to breath maintains an equilibrium and stable balance of the timber. When air and or moisture is trapped it can creates ideal conditions for supporting fungus or rot which attacks the timber unless preservative measures have been imposed upon the timber.

**TIMBER HAS BEEN SANDWICHED BETWEEN THE INADEQUATE UNDERSTANDING OF DETAILING AND COST REDUCTION OF LIMITING PRESERVATION TREATMENTS. HOWEVER THIS IS BEING ADDRESSED THROUGH REGULATION, STANDARDS OF PRESERVATION AND INCREASED AWARENESS THROUGH EDUCATION.**
Let us consider the benefits and appropriate uses for timber by reviewing what lumber’s inherent qualities are.

Timber is a living, breathing, and natural sustainable resource that is competitive in comparison to the alternatives for framing. Pinus grows relatively quickly and quality is improved through consistent farming management techniques. It can be easily worked depending on species in a variety of ways. Laminating, moulding type techniques have grown potential markets, high strength to weight ration, warm to touch, an insulator has texture, smell, and variety of visual character.

It is this variety that requires managing to ensure consistent performance for both visual effects and strength in structural uses. Visual grading has been in place for some time but the structural grading standards are being refined to achieve even better consistency between suppliers. To assist the durability of timber preservation treatments are imposed upon the material. Subject to the specific requirements intended for the end use of the timber these treatments will vary. Achieving ecological and sustainable treatments is of greater concern now than it ever has.

Jointing in an economical and aesthetic way remains a big challenge for designer and engineer alike.

Timber has been such a big part of New Zealanders lives for so long we take it for granted. It is perceived as cheap and the good point about that is it is competitive in consumer’s eyes.

Timber has been around for so long that industry expertise is unprecedented. There is vast information available. The opportunity is to gather it into a readily available resource easily accessed.
growing awareness

Is it just the people in the industry trying to promote more of their products or is there a need for wider spread information?

Who are we targeting?

The biggest market is surely the consumer, the home owner, the end user.

Our view is that many people, especially home owners, are concerned if timber does not deliver to their limits of understanding where it is affecting lifestyle and investment of the individual. New Zealand has a proud heritage of investing their savings into home ownership. If this core belief of “my home is my castle” is eroded through public perception that the castle will not stand up in timber then owners will select alternate materials perceived to offer a permanent solution to housing and indirectly to their investments. The 3 little pig’s story supports this theory with bricks and mortar outperforming timber.

A watch dog of qualitative control is required to ensure minimum standards are achieved This is in place in the form of Local Authorities as administration agents of the Building Act but its effectiveness needs to be promoted.

Secondary markets are the specifiers; who decides to build in timber? The Architect, the builder, developer, group builders in-house design teams and the government.

These groups need to be informed and educated to understand the properties of timber and appropriate situations for use given the current construction techniques.

Today there is a greater range of choice of material combinations available through technology, marketing, imports that must be understood in the local environment. Suitability of these assemblages that are tried and true in foreign locations are often inappropriate for New Zealand environments where humidity, marine environment or ultra violet light differ from that known elsewhere.

Several of these specifier groups are taking advantage of the opportunity to self promote their respective qualitative and reliability benefits that less professional or motivated individuals or groups can not.

The home owner’s selection of construction materials is based on perception, style, choice and not the least cost. Given 90% of the market is currently mass housing; cost is a significant driver, often at the expense of quality. To be competitive the supplier of this housing is looking for an advantage to supply similar product at a less expensive cost than the opposition. Factors that differentiate similar products are often qualitative. These consumers need to have confidence that what is being promoted is fit for purpose and achieves their aspirations of style.
We need to improve the quality of our lumber through grading, stock selection, tree management, processing, all the way to the consumer.

Targeted education of these key groups will promote wider awareness of issues that require qualitative decisions that will raise the standard of construction and in so doing re-establish timber as the preferred resource of choice.

Achieving acceptable standards of construction are reliant on a number of factors;

- Appropriate material selection
- Reliability of consistent quality of supply of timber
- Proven construction techniques
- Qualified contractors
- Quality control monitoring and audits during construction
- Regular post construction maintenance and monitoring

Given the perception we are in a commodity cycle reduced to a supplier of low cost structural lumber can we review the innovation already occurring to add value to our timber resource through focussed marketing. We need to tell the story of wood.

We see emerging innovative products in the market that will reward the industry with greater opportunities rather than the traditional framing market. Products such as LVL, plywood, composite members and laminating can allow architectural freedom in design

Images; bending ply, freeform structures

These products use timber to be more efficient, effective and quality controlled through verification and at the same time it is sustainable.

Given the potential decline in traditional export markets we need to grow new markets. One way is to look to new export markets where transportation is not prohibitive. Australia has been and needs to be targeted in this regard through innovative design products rather than less processed lumber.

The other option is promoting greater use locally with greater added value products and technologies.
Wood is good - use it wisely with confidence. It is our best resource!

- As an industry we need to plan a strategy to reposition ourselves for the future. Education is a key;
- Innovative thinking will lead to new opportunities beyond where we currently are exploring;
- Research and design will afford greater options;
- Innovation needs to respond to the unique character of the lumber; it breaths, moves, glows, smells, its feel, easily worked;
- Focused marketing will educate and inform, promoting confidence in product use. The combining of industry talents needs to be promoted with an inter linking of resources and knowledge;
- A resource centre should be promoted for ready access by all consumers and users.