

# PARRY NEWS



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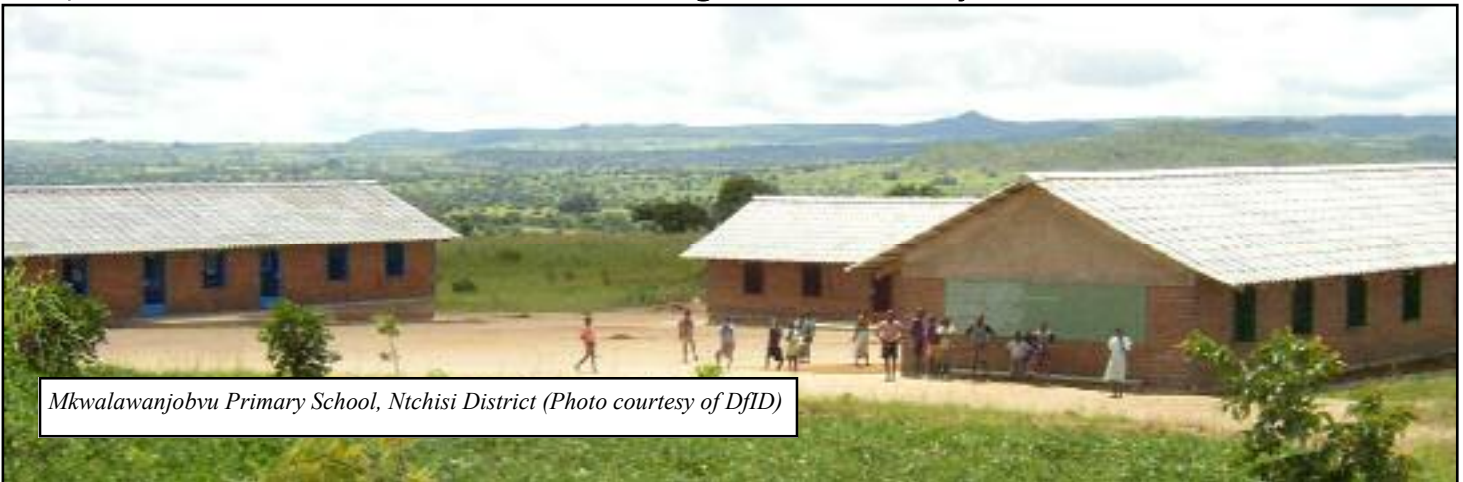
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An Occasional Newsletter from JPM Parry & Associates Ltd (JPA),  
Parry People Movers Ltd (PPM), Pre Metro Operations Ltd (PMO) & Holdfast Carpet Track Ltd (HCT)

July 2005

## NEW SCHOOLS OPEN ACROSS MALAWI

1,500 classrooms and over 100 teacher training facilities use Parry tiles from small local businesses



Mkwalanwanjobvu Primary School, Ntchisi District (Photo courtesy of DfID)

NEWS HAS BEEN RELEASED from the education office at DfID Malawi describing the amazing progress being achieved constructing classrooms for the Malawi Ministry of Education. These are now being completed at a rate of 30 per week. Established building methods had been based on the use of corrugated

metal sheets which are imported into the country, noisy in rain and uncomfortable to work under in hot weather. The programme managers decided to introduce local manufacture of the alternative micro concrete roofing developed by Parry Associates in the 1980s and already in use in several other African countries.

Three consignments of production equipment were despatched to Malawi in 2003-4 and a further order of £78,900 was placed in May this year.

*How Parry roofing benefits 100,000 Malawians – and could reach over 100 million people worldwide, page 3.*

**YOUR STARTER (HOME) FOR £500**

The prototype HIGH AND DRY building skeleton. Floors, supports and roof allow walls to be finished with materials available to hand. Total material cost for 18m<sup>2</sup> of living space: £500 See also Technical News, page 8

### RURAL LIGHT RAIL FOR WENSLEYDALE RAILWAY

Joint project with PPM announced

THE WENSLEYDALE RAILWAY and PPM are similar organisations: their plans for the future of transport are ground-breaking and highly desirable, but neither has the luxury of large amounts of money immediately available. The two have therefore come together to develop Community Light Rail for future public services on the WR. Full story and syndicate details, page 4



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# Comment

## SMALL IS BIG

By John Parry



Dr E F SCHUMACHER'S revolutionary book *SMALL IS BEAUTIFUL: Economics as if People Mattered* explained the concept of Intermediate Technology to a worldwide audience. That was in 1973. Since then, while the three word prefix has become a ubiquitous cliché, the expression 'intermediate technology' has had a more modest profile. However, the idea that relatively simple and reliable technology - specifically designed for use in less developed and less resourced environments - could be a better generator of jobs, incomes, products and self-reliance than spin-offs from the rich world's high-tech industry has been very successful. Parry Associates have never tired of the Schumacher 'brand'. Intermediate technology is a concept still with a million miles yet to run.

The Parry Associates motto 'Actions speak louder...' is a reflection of Schumacher's concern that in the overseas development field it is too often words that pay! A recent study by the charity Action Aid found that some 40% of the international community's \$50bn overseas aid budget is spent on consultants! (How much did it cost to do the research to find this out?)

Charitable fund raising is an art in itself, sometimes only loosely connected with the final charitable objective. At the moment, £25 cheques are being sought (not by us!) to provide soft harnesses for donkeys being

trained to pull ploughs. Just as rain drops converge into rivers, lots of little cheques will generate really useful untied funding, even if donkey-training is hardly an example of the liberating technology envisioned by Fritz Schumacher. But intermediate technology as an approach is actually a really *big* idea, one which is at present changing the lives of 100,000 adults and children in Malawi, for example (see front page story): more livelihoods and better schools through IT methods of building. Repeat this story a thousand times - which we think easily possible - and a hundred thousand becomes a hundred *million* beneficiaries. Small is Big. If ever there were a circumstance where words are no substitute for action, it is the aftermath of the December 2004 tsunami. Full marks for the immediate, short term response by the international agencies. Tents, blankets, bottled water, body bags were on site in a matter of hours. Fewer marks however for what is being achieved in reconstruction. Why all the delay? Because rebuilding towns and villages is difficult. With one or two exceptions, the majority of the staff of international charities and official aid organisations have little experience either of manufacturing or construction. Faced with demolished buildings, altered geography, fragmented communities and thousands of local government officials missing or dead, they are stumped. But for the press it is local administrators who take the blame: bureaucrats insisting on planning procedures, customs officers wanting import duties paid, and private contractors raising their prices in response to the demand. It is hard to criticise the humanitarian enthusiasm of the giant aid agencies, but

virtue marches with the vice of pride and the borderline is easily crossed. Functionaries have to do their jobs and contractors seek their livelihoods but the agencies expect the world to conform selflessly to their purpose. They work 'not for profit' and distance themselves from collaboration with business-based providers. But the task now is to channel the tsunami appeal funds into action, not the discussion of action. And first we must somehow escape from the aid industry's familiar stereotypes of grinding poverty reaching out begging hands. This is not the relationship on which to base the reconstruction of communities of working people struck by sudden catastrophe. The tsunami event struck rich and poor alike. Survivors, including western holidaymakers and local residents, behaved like good neighbours. Speedily implemented acts of reconstruction resulted from person-to-person help: businessman to local school, guests to hotel and restaurant owners, etc. Many small acts: big results and much satisfaction on both sides.

It is with these thoughts in mind that a new humanitarian group is taking shape (see story on page 6) which sees business differently from the 'rat run' image portrayed by the voluntary sector. The new organisation will work with business providers as important sources of the skills needed for self-sustaining productive activity. And there should be benefits at both ends, as UK companies' staff involved in projects return with richer knowledge of their partners' needs and capabilities - and of themselves. This is the spirit of co-operation of which Schumacher wrote. So don't put intermediate technology on the shelf. Build IT.

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# MICRO CONCRETE BUILDING IN MALAWI'S EDUCATION SECTOR

Potential for 1000-fold increase by replication in other sectors and other African countries

THE DECISION in May 2005 by the Malawi School Building programme to order ten more production plants from Parry Associates confirms the success of the decision to go for local manufacture and to favour lightweight micro concrete material over metal sheeting. The description by the Education Office of a 'quiet roof that lasts' alludes to the loud noise which previously stopped teachers from teaching during heavy rain and inevitable deterioration due to corrosion of corrugated iron in a damp climate. At the onset of the hottest part of the year

in October, buildings with metal roofs also 'heat up like an oven'. But under micro concrete roofing, conditions are much cooler and the material does not rust. A typical school classroom arranged for modern methods of teaching may have four or more large, rectangular tables, around each of which sit up to 16 eager-to-learn children. A block of three classrooms can provide accommodation for nearly 200 students, sometimes attending in two 'shifts'.



*'We love our new school!!'  
Children and staff outside the new Mkwilawanjovu school*



*African children studying hard under cover of a Parry tiled roof*

With the education sector alone set to improve the teaching environment of over 100,000 children and adults, discussions are taking place into how to spread the benefits of the better roofing into other sectors: health and private housing, for instance. This in due course could result in half a million Malawians having better quality roofs supplied by a new 'potentially lucrative local industry'. Parry Associates see close

economic and cultural parallels in other African countries, such as Mozambique, and Tanzania – both with much larger populations than Malawi. This small southern African country, like the Gambia in West Africa, may be pointing the way to introducing roofing material manufacture from local resources which could expand ten-, 100- and ultimately 1000-fold. JPA has always been ambitious: 100 million potential customers can't be bad.



*A school in the Gambia's North Bank Division*

## SCHOOL ROOF CONSTRUCTION IN GAMBIA SPEEDS UP

A NEW £9,800 ORDER for equipment was received on 16th June from a Swedish development charity, Future In Our Hands, which has been constructing schools in the Gambia since 1987. In 2000, FIOH began to change from corrugated metal to micro concrete roofing using Parry machines. Since then over 200 classrooms have been built with Super Roman tile roofs. The latest consignment will double FIOH's capacity, thereby speeding up the pace of construction.



*No complaints about heat or noise from these Gambian schoolchildren in their Parry-tiled classroom*

## NEW CAMEROON BUILDING MATERIALS FIRM BASES ITSELF ON PARRY TECHNOLOGIES

**Managers visit UK for familiarisation and training**

A NEW CUSTOMER arrived on Parry Associates' doorstep in May 2005 from Cameroon in West Africa. Cambrick Ltd is made up of people with a trading background who see opportunities in their country's growing building sector for a provider of high quality building materials. Having checked out the Parry Associates website, Mr Eric Tandoh arranged for the manager-designate of the new venture, Doris Ndifongwa, and a colleague, Felix Tandoh, to visit the UK to see the products and processes.

As a result the venture has set aside about £7,000 for an initial consignment of equipment to get the business started.

In the great 'Poverty Debate', business start-ups are not a factor of any importance to the political figures, popular celebrities or leaders of charities to whom the public look for guidance. But this is exactly what is needed: grassroots initiatives based on the natural entrepreneurship of people responding to the growth of urban settlements. Spontaneous economic activity will create the healthy prosperous neighbours that the nations of the world hope to see in Africa. Parry Associates believe that everything possible should be done to help such ventures succeed.

*The directors of Cambrick Ltd (left) being shown a new staircase system – under development at Cradley Heath – by Festus Vandi, a trainee from Sierra Leone*



# PPM JOINS FORCES WITH WENSLEYDALE RAILWAY

## Two transport innovators launch syndicate to build first Community Railcar

A NEW TEAM in innovative transport has come into being with the formation of a partnership between the Wensleydale Railway (WR) and PPM. Following earlier contact between the two organisations (see Parry News 40), agreement has now been reached to produce a new kind of rail vehicle that meets the WR's future requirements. The strategy is also supported by the local county council and the Yorkshire Dales National Park Authority, both crucial partners in the development. The WR is widely seen as a model for innovation in transport, having reopened 17 miles of closed railway in North Yorkshire. It operates passenger trains seven days a week

between Leeming Bar and Redmire and is aiming both to extend the route and to improve the frequency of services. PPM's vision of Community Light Rail - endorsed by the Strategic Rail Authority's Community Rail Development Strategy and by recent reports from the Transport Select Committee (see page 6) - fit perfectly with the full reintroduction of passenger rail transport east to west across North Yorkshire. The



Road transport or walking: currently the only ways to get to Northallerton rail station

reopened middle section of the WR's route is suitable for heavy trains and is currently operated by heritage diesel units, but a new approach is needed for the future extensions at both ends of the line. To the east, the railway needs to serve the significant local town of Northallerton and link up with the main line train services which call at the station there. However, the former rail line into the station has been removed and the route blocked.

Reaching westwards to Garsdale, where the WR will eventually connect with the historic Settle-Carlisle rail line, services must enter the Yorkshire Dales National Park. Here, the



Original watercolour by Derek Oldfield NDD of Wensleydale with the line extended through the Yorkshire Dales National Park. See below right to purchase limited edition prints in aid of the project

environmental impact of the new service is of extreme importance in such sensitive surroundings.

### Clean and quiet in town or country

Community Light Rail provides the solution. New PPM vehicles can operate in exactly the same way as modern trams: running on separate lines where appropriate but transferring on to street tramways in built-up areas. In this way, the centre of Northallerton and its station can be directly accessible from the rest of the WR. Just like trams, the Community Railcars will have convenient low-floor access for ease of boarding from pavement level - but this also means that no large railway platforms need be built in the national park, while simple low-level extensions at existing stations will make them suitable for both light and heavy rail. The one difference compared to modern tramways is that PPM Community Railcars need no electrification, so there will be no unsightly poles and wires, no power supply installation or overhead line maintenance costs, and street tramway construction will be much easier. Yet the unique flywheel energy storage concept ensures that efficient, quiet and low-emission operation is still achieved. The WR has particular requirements that make a new type of vehicle necessary. One part of the specification is that the Community Railcar should have enough seats for a coach-load of visitors, which means a significantly larger vehicle is required

compared to previous PPM developments. As the illustration below shows, an articulated railcar is envisaged with powered bogies at each end. The middle unpowered bogie allows the low floor area to extend between the two sections of the vehicle, with step-free access from platforms and accommodation for wheelchairs. Inside the railcar, steps lead up to the raised passenger areas at the outer ends. North Yorkshire County Council and the Yorkshire Dales National Park Authority have both expressed interest in transport improvements to promote economic development in the local communities, as well as encouraging visitors to the national park to leave their cars behind and arrive by rail.

### Syndicate now open!

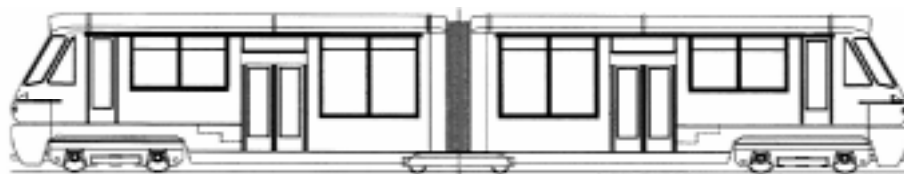
Building on PPM's previous achievements in agreeing a performance specification and making a patent application for the bogie concept, the Wensleydale Community Railcar Syndicate will contribute to the construction of the new Community Railcar. Announced to an enthusiastic response at the annual general meeting of the Wensleydale Railway Association on 11<sup>th</sup> June, the syndicate is now being built up. Other sources of funding are also being pursued to create a model for affordable, environmentally-conscious rural transport.



Looking north from Northallerton station with the old link to the Wensleydale line to the left of the operational tracks

To receive information about joining the Wensleydale Community Railcar Syndicate, or to purchase one of 200 limited edition prints at £45 each\*, contact PPM on [info@parrypeplemovers.com](mailto:info@parrypeplemovers.com) or write to Parry People Movers Ltd (Wensleydale Community Railcar), Overend Road, Cradley Heath, West Midlands, B64 7DD, UK.

\* Includes post & packing within the UK. £30 per print goes to Wensleydale Community Railcar fund.



Left: Outline drawing of the Wensleydale Community Railcar

# NETWORK RAIL TACKLES 'CATCH-22' AT STOURBRIDGE

DIRECTORS OF NETWORK RAIL, which controls the railway system from Thurso to Penzance – with Stourbridge somewhere in between – are understood to have intervened personally to speed up the process of getting the PPM light railcar up and running at Stourbridge. Recognising the value of PPM's developments, both to its own business and the wider transport industry, the infrastructure operator has decided that the operation at Stourbridge should be judged sensibly by the risks it really presents. As the branch is operated in isolation from the rest of the network, there is no need to judge it against the standards for heavy trains.

Network Rail directors have assured PPM that they are determined to 'make it happen'. The organisation's status within the rail industry, strengthened by

the recent Railways Act 2005, means that there is now full backing for the Stourbridge operation to start up soon. Then, finally, the travelling public and the authorities will be able to judge PPM technology on its own merits. Concerns that the railway industry's processes for accepting rolling stock, which involved around 1,500 separate requirements (see Parry News 41), would place an impossible delay had to be lifted – this has now happened. The problem had arisen precisely because PPM's products are *not* main line trains: they are light rail vehicles specifically designed for local operation on separate lines such as Stourbridge. All the railway authorities now agree that the 1,400-metre long branch is clearly most suitable for light rail operation. The current heavy trains represent neither

good use of rolling stock resources nor good environmental practice, but under the railway standards it was impossible to test out an alternative on Sunday with the trains operating for the rest of the week. Even though the trial was intended to ascertain whether light rail could completely replace the current trains, it was impossible to do a trial without total replacement of the trains! This 'Catch-22' situation needed powerful intervention to resolve. In the new spirit of full co-operation, Network Rail have prepared submissions, in collaboration with PPM and PMO, for the two key railway industry Subject Committees scheduled to meet next on 28<sup>th</sup> June and 8<sup>th</sup> July. This will be the first time that the quest for approval has the robust backing of the infrastructure controller. Fingers crossed.

## PPM OPEN DAYS ATTRACT HUNDREDS

Glowing response from passengers in favour of Community Light Rail

THE OPPORTUNITY to experience PPM technology for free was offered in April and May when public open days were held at the Chasewater Railway. The first, on 2<sup>nd</sup> April, promoted reopening the nearby Brownhills to Walsall rail link (see Parry News 41): special headboards showing these destinations were fitted to the PPM 50 light railcar. The success of this event, when nearly 300 passenger journeys were made,

Passengers' opinions were overwhelmingly favourable. The trackwork on the Chasewater Railway - which is engineered for low speed steam trains - can result in a bumpy ride for the four-wheel PPM 50, but feedback showed that people fully understood the potential for Community Light Rail to offer modern, comfortable, quiet transport in both rural and urban environments.



Passengers wait to ride the PPM shuttle at Brownhills West on 2nd April

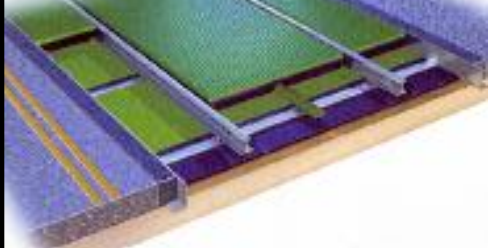
prompted Dr Paul Salveson, General Manager of the Association of Community Rail Partnerships, to suggest an operation as part of Community Rail Day on 14<sup>th</sup> May. PPM rose to the challenge and an even bigger open day - previewed in the local and railway press - was held with over 500 journeys made. Such was the interest in both events that visitors travelled from across the country to ride on the 50-passenger railcar.

### 'An excellent idea'

Passenger comments praised the quiet operation, accessibility and environmental performance of PPM technology. 'Excellent idea' was a typical response to the concept of running local railways such as the Brownhills line in this way.

The railcar's level access from station platforms enabled prams, pushchairs, bicycles, wheelchairs and even dogs to be carried easily and comfortably between Brownhills West, Lakeside Halt and Chasewater Heaths. Its large windows and light, airy interior were much appreciated by people riding through the attractive country park on two sunny spring days.

## TRAMWAY TRACK INNOVATION: SUPPORT AT LAST



### JPA leads consortium to loosen cost stranglehold on new construction

THE CIVIL ENGINEER of Croydon Tramtrack has criticised over-engineering on UK tramways, compared with overseas practice. JPA is only too aware of the fact that savings in vehicles count for little if the tracks on which they run are built uneconomically. Therefore, JPA, HoldFast Level Crossings, the WTB Group, Baggeridge Brick, Glendenning Plastics, Heath Lambert and Mostyn Estates have submitted a proposal for a 12-month project under the Department of Trade & Industry's Collaborative R&D scheme. Outcomes include modular products, results from full-scale trials and conclusions on legal, planning and cost advantages. An approach has also come from a Europe-wide scheme led by Transport for London. Phil Hewitt, Head of London Trams, has written that 'at the UK Tram Steering Group on 20<sup>th</sup> May (attended by the Department for Transport) it was agreed that London Trams would, on behalf of the UK tramway industry, submit proposals for further design, development and site testing of the modular trackform to the EU for development funding'. This follows previous interest from London Trams (see Parry News 38). Once the concept of modular tramway infrastructure has been proved, it will be commercialised by HCT.

# POLITICAL SUPPORT FOR TRANSPORT INNOVATION GROWS

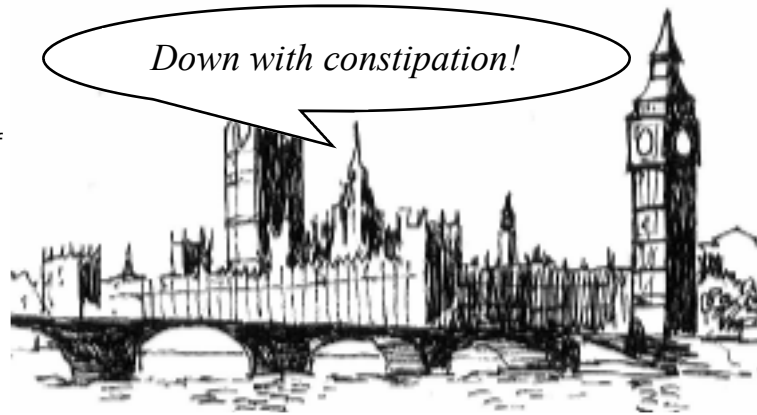
UK parliament hears powerful criticism of failure to implement Stourbridge trial operation

RECENT MONTHS have seen repeated reference to the barriers to innovation found in the British transport industry. Criticism of past performance has come in the form of a number of reports from the House of Commons Select Committee on Transport, as well as in speeches in both chambers of the Palace of Westminster. Back in January, Ross Cranston - then Labour Member of Parliament for Dudley North - praised the achievements and potential of the PPM concept in the Commons debate on Community Railways: 'The forms of light rail carriages that have been developed have great advantages. They cause less pollution, use less energy and have high-performance acceleration and braking systems. They do not have to be segregated from the surrounding environment with, for example, fencing and are less costly to run'.

## 'Innovative thinking urgently needed'

In March, representatives from JPA and HCT gave evidence to the cross party Transport Committee (see Parry News 41). The resulting report, *Integrated Transport: the Future of Light Rail and Modern Trams in the United Kingdom*, summarised the lengthy process to operate a trial PPM service at Stourbridge succinctly: 'Although the vehicle had been passed as safe by the Railway Inspectorate in 2002, after four

years the company remained in negotiations to allow it to run its vehicle ... We can say definitively that an answer should have been given years ago. Delays like this are not only frustrating, but they put at risk the commercial partnerships set up to support such innovation'.



Shortly before, the Transport Committee had produced another report on Rural Railways. Included in the recommendations was this statement: 'Some innovative thinking about the rolling stock market is urgently needed. In the longer term the Department for Transport must start planning for new trains for community railways, possibly building on light rail technology' - a clear call for concepts like Community Light Rail, championed by PPM, to be rolled out in order to provide high quality transport in rural areas. The most recent references to PPM's developments were heard in the House of Lords on 24th May. In a debate in

response to the Queen's Speech, peers of different political persuasions, Lords Snape and Bradshaw, both picked up the theme of how valuable innovation has been prevented from proving itself in practice.

Describing the benefits of the Community Light Rail approach, Lord Snape emphasised that 'if community railways are to be segregated from the main network and their lower speeds and perhaps lighter rolling stock are to be complemented by, we hope, less demanding regulatory standards, we need to look at new kinds of vehicles for our railway industry' and cited PPM. However, he then criticised the fact that the Stourbridge project -

intended to demonstrate the usefulness of the concept - had not commenced twelve years since the first approach was made from Centro to JPA.

## 'A train's weight of paper'

Lord Bradshaw, transport spokesman for the Liberal Democrat party, was even more critical. Referring to the length of time elapsed since the Stourbridge project was first proposed as 'a monument to the regulatory constipation we have in this country', he went on to suggest (not unreasonably) that 'the amount of paper that has been generated weighs more than the train itself - it is as bad as that'.

## PARRY ASSOCIATES TO JOIN INDUSTRY-OVERSEAS AID COLLABORATION

Build IT International: concerns over effectiveness of existing approaches stimulates a new initiative for making UK industrial competences available to developing countries

RECENT HEADLINES indicate that the normal goodwill of journalists to the efforts of Britain's overseas aid industry is being replaced by some scepticism.

### 'Tsunami Victims still wait for Aid to Arrive'

'What has happened to the £1.75bn pledged in charity aid?' asked the Daily Telegraph on 20th May 2005. On 4th June the same newspaper reported the results of a YouGov poll indicating that 83% of British people think 'Africa aid is wasted'.

Two days before the Evening Standard included a hard hitting article by Will Self, 'Why I won't be squandering any more money on Africa'.

The Observer newspaper meantime carried the story in its 29th May 2005 edition that



'Consultants pocket \$20bn of Global Aid' - equivalent to 40% of the total. This sudden swing from unrealistic acceptance to destructive scepticism will not help the cause of relieving African poverty or rebuilding in Sri Lanka's coastal villages.

There will soon be a way, however, to channel some of the goodwill into programmes supportive and executed by the most capable of people who know how to get things done.

A group of British and Irish firms in the construction and building materials industry have agreed to join forces to create a special purpose organisation called Build IT International Ltd. The firms will allocate a proportion of their executive time and some funding in order to enhance the

construction element of humanitarian and development programmes overseas. These will include the rebuilding of some coastal towns and villages which were severely damaged by the December 2004 tsunami.

## JPA STILL SEEKING FUNDS FOR CRUSHER DEVELOPMENT

### Major charities unprepared to support concept for constructive disposal of tsunami rubble along Asian coastlines

IT SEEMED SO OBVIOUS at the time of John Parry's January visit to the tsunami-struck areas around the Indian Ocean (see Parry News 41).



Tens of thousands of tons of rubble from demolished buildings spread along a thousand miles of coast, combined with the prospect of severe shortages of gravel and building sand for the reconstruction work. Why not break down the rubble - comprising burnt bricks, cement mortar and concrete blocks - into sand and gravel suitable for use in the rebuilding work?

The problem that stood in the way was that - although it is very common to see low income people squatting by the road side, crude hammers in hand, 'napping' riverstone (or burnt bricks in Bangladesh) to produce building aggregate - this is not a process that the humanitarian charities see any reason to upgrade. Meanwhile, injuries to fingers and eyes of

'nappers' are common and productivity is low - a classic case for devising an intermediate technology tool.

Specification: make the job quicker, safer and more congenial without involving the use of fossil fuel or investment which can never be paid back by the workers themselves.

A modest contribution by a charitable organisation to develop a new technology will result in safer working conditions, higher income for workers and better supply of raw materials for local construction. The benefits will be felt far beyond the tsunami-affected zones, as similar activity is undertaken throughout the less-developed world.

In March 2005, Parry Associates determined that a simple, safe rock and rubble crusher could be designed. It would follow the principle of the successful pendulum clay crusher, developed and patented by the company in the early 1980s, which processes materials which are more friable than stone.

Yet despite explaining the case for developing the rubble crusher and offering free licences for local manufacture, none of the major development charities which were approached were interested in supporting the development of this machine.

## CHURCH REBUILDING IN NORTHERN GHANA

### Technical support from Gambia grows inter-faith goodwill

BACK IN JULY 2004 an order was received from a church fellowship in Leeds for tile making machinery for a church in Ghana which had been destroyed in a wind storm and needed to be rebuilt.



*Box of Parry equipment is unloaded in Kaleo*

The project had been initiated by a young VSO volunteer, Andy Empson, who was from Leeds and was working in Kaleo. Ghana customs insisted that import duty was due, despite the machinery being a charitable

gift to the people of Kaleo. Despite a lot of paperwork being generated, in order to avoid further delays it was decided it was best to pay the duty and get the crates transported up to Kaleo, where an experienced Parry-trained technician, Abou Manneh, would be on hand to commission the plant. A Sunday school has now been built under supervision from Abou and work has started on the main church.

Commendable aspects of the Kaleo project include the goodwill of the folk in faraway Leeds to help their Ghanaian neighbours, and the keenness of a young Muslim technician to ensure that 'if the church was for God it must be well designed and constructed'. Even staff at Cradley Heath with no religious inclinations admit to being quite inspired by this story.

## INTERNATIONAL NEWS IN BRIEF

### DEMOCRATIC REPUBLIC OF CONGO

The Fondation Hanns Seidel has ordered a further vibrating table and associated moulds and equipment. The previous shipment of Parry products is busy producing roof tiles.

### LIBERIA

Our agents Petico report an order on the way for building materials plants. This coincides with enquiries from a German missionary organisation.

### SRI LANKA

JPA's Sri Lankan agents HDL have been busy with potential projects for Parry technology to help in the reconstruction after the tsunami and for general development.

### THAILAND

Four Parry production plants have now been shipped to Thailand and are starting to help rebuild the south of the country after the Boxing Day tsunami.

### VANUATU

A micro concrete tile production plant and extra moulds have been ordered by Habitat For Humanity for a project in the Pacific island state.

### YEMEN

A new export agency, the Zacrifa Consultancy, has been set up by Mr Nu'man Wahid to establish a market presence for JPA in the Yemen.

## ZIMBABWE TRAGEDY POINTS TO LAND TENURE ISSUE

JPA HAS RECENTLY received an approach from a commercial company in Harare regarding the situation following the forced demolition of thousands of shanty town houses in the capital and elsewhere. The firm reports that where homes once stood there are now just tons of rubble. along with other employers it is considering construction of 'humanitarian housing', schools and medical centres for staff. Parry Associates have not engaged in business in Zimbabwe in recent years due to the political situation, but is responding to this request, which includes the disposal of hazardous asbestos amongst the debris. The need to address land tenure will also be emphasised, including the possible use of two-storey construction (see page 8) to maximise living space on smaller plots.



*The production equipment is blessed before use for the Kaleo Sunday school and church*

# TWO STOREY 'TSUNAMI' HOUSE CORE TRIAL PROVES THE HIGH AND DRY CONCEPT

High levels of finish and structural integrity achieved with under £500 spent on materials

THE HIGH AND DRY exercise started out with the challenging objective of creating two storeys of dwelling space robust enough to withstand an earthquake, a cyclone or a tidal wave but with a materials



Quarry tiled ground floor with reinforced ground beam and columns

budget of less than £500 (see Parry News 41). JPA's building materials technologists needed to draw on 30 years of international experience, including that of associates and collaborators from Thailand, Sri Lanka, Kenya, Malawi, Sierra Leone, the Gambia and the Sudan, to devise the best specification to combine economy with performance.



Cofferred underside of upper floor showing finish after painting

The foundations comprise pads to spread the load at the base of the columns and anchor the reinforcement running up the



Lightweight tiling being installed over upper floor

corners of each column. These are hollow and continue through the intermediate floor level slab. The ground floor surface has 'flexible paving' with 25mm thick 'quarry' tiles laid on a compacted clay and sand base. The material-saving coffering of the 150mm thick upper floor is achieved with reusable shuttering of square plastic moulds mounted on a steel framework. This is made to vibrate using portable DC electric Multivibe units. For maximum economy in building the roof, Roman II micro concrete tiles are used with double

## TECHNICAL NEWS



Individual roof tiles wired securely in place on light framework

fixing points to stay in place during winds which would rip off metal sheets. At 8mm thick, this tiling provides a material-saving cladding weighing only 24kg/m<sup>2</sup>. Since the preliminary announcement of the HIGH AND DRY method of frame construction, responses indicate that the need to conserve land is as important as providing a robust structure with high level floor areas.

In post-tsunami Sri Lanka, there are official concerns over rebuilding too close to the shoreline, but the Army Engineers have said that they are keen to install a prototype HIGH AND DRY building on the basis that 'seeing is believing'. In every case the concept of reducing the quantities of materials used by introducing coffered lightweight floors, hollow columns and roof cover based on micro concrete tiles is proving to be of great interest.



Fabian and Esther David visit from Sri Lanka to appraise the system for tsunami reconstruction

## BOGIE PATENT APPLICATION

JPA HAS APPLIED for a patent covering the use of flywheel-powered bogies on rail vehicles. The key innovation is the ability to fit an entire driveline into the bogie itself. Conventionally, traction equipment on trains and trams is split between the bogie and either the underframe or the roof. Bogie-fitted PPM vehicles will not require any passenger space to be sacrificed to house powertrain equipment: a virtue of the compactness brought about by the use of energy storage. This further design advance is being licensed to PPM for use in larger railcar and tramcar designs, such as the Wensleydale Community Railcar (see page 4).

## SOLAR LAMP DEVELOPMENT CONTINUES

THE AURA MOONLIGHT solar-powered street light (see Parry News 41) has reached the stage of complete assembly and service testing, and a provisional specification has been issued. The unit comprises twin clusters, each with 28 light-emitting diodes. The solar panel features thin-film amorphous silicon plate with a rated power output of 10W. The battery is of a maintenance-free, spill-proof gas recombination type with safety valve and has a design life of five years. The design assumes a management system



with accessible air switch for manual on/off control.

Prices of units in quantities of one, ten and 20 are available, as is the cost of the Parry kit for production of lamp post elements for at-site construction, including special scaffolding. A full manual will be supplied.

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