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## Punj Lloyd gets a strong foothold in North Africa



In August 2006, Punj Lloyd made a foray into North Africa by securing pipeline projects from Sirte Oil Company. The outstanding achievement being that Punj Lloyd won the largest ever EPC contract without collaborating with any of the majors.

The signing ceremony held in Libya, was attended by senior officials: Dr Chokri Ghanem, Chairman NOC, HE the Indian Ambassador to Libya, Ahmed Aoun, *Chairman* - Sirte Oil Company, Abdussalam M Ashur, *Project Manager* - Elkhoms - Tripoli, Taha Mahmoudi, *Project Manager* - Melita - Tripoli, and team from Punj Lloyd represented by Atul Punj, *Chairman*, VK Kaushik, *Managing Director*, Jamel Ben Amor, *Regional Director* Maghreb & Africa, M Parkash, *Projects Director*, Atul Jain, Raju Kaul, *Executive Directors*, Gaurav Singhal, *General Manager*.

On August 23, the project inauguration ceremony took place in Melita by HE Dr Baghdadi El Mahmoudi, Prime Minister of Libya amidst senior officials from the Libyan Energy Sector including NOC, SOC, Punj Lloyd, local and international press.

The order comprises two contracts. The first contract involves the construction of the main 98.4 km (34" dia) pipeline from Tripoli to Melita and a 21 km (24" dia) branch pipeline to the Zawia power plant. The work involves the construction of gas pressure reducing, metering stations and a compressor station at Melita. The work is scheduled to be completed in 22 months. The second contract involves completion of 157 km (34" dia) El Khoms-Tripoli pipeline, extensive civil, mechanical, electrical and instrumentation work on the gas pressure reducing, metering & SV stations, compressor stations at Sidra & Wachkah, telecommunication and SCADA work. This is scheduled to be completed in 18 months.

Pipelines continue to remain Punj Lloyd's core competence and its expertise in onshore and offshore pipeline is well known. This is an important milestone for Punj Lloyd as it will help us to set a strong foothold in Maghreb and Africa.

◆ Jamal Ben Amor and Gaurav Singhal





# Medicity

Punj Lloyd builds its dream project

Medicity far surpasses any conventional medical institute built so far

## Spread over 50 acres in

Gurgaon, Medicity aims at integrating the highest end of modern medicare with traditional forms of Indian medicine - Ayurveda, Unani, Homeopathy and holistic therapies.

With India opening its doors to medical tourism, Medicity will also have online access to an electronic copy of any patient's medical records at any time, from any part of the world. Built to international standards, the multi-speciality medical institute will also have service apartments, a full range of hospitality services and a market complex.

A seamless integration of various super specialities like cardiology, neuro-sciences, oncology and high end orthopedics, Medicity will house 1500 beds and 40 operation theatres. The total covered area will be 400,000 m<sup>2</sup>. This is the first medical tourism project undertaken by Punj Lloyd.

As part of Phase 1, Punj Lloyd's scope includes construction of built-up floor area of 200,000 m<sup>2</sup>, comprising a 21 storied OPD block, two 18 storied IPD blocks, 9 storied OT block and 7 storied administration and night lounge blocks.

The basement has 3 levels, each having a floor area of 16,000 m<sup>2</sup>. Above the basement are 2 floors – the lower ground floor &



upper ground floor. The basement footprint of 18,000 m<sup>2</sup> sits on a 2 m thick raft foundation for tower blocks whereas other blocks have thickness varying from 0.3 to 0.9 m.

Work is to be completed within a tight construction schedule of 15 months, reckoned from February 2006. Punj Lloyd has deployed modern mechanised systems to augment the project speed and is committed to complete the work within the tight schedule.

◆ P Kulshrestha  
S M Goyal



A large-scale construction project is shown, featuring a massive, dark-colored industrial pipe being hoisted by a yellow crane. The pipe is supported by a complex system of cables and a hook. In the background, a yellow Caterpillar bulldozer is visible, along with a worker in a red shirt and white hard hat. The scene is set outdoors under a clear blue sky, with a body of water and a pile of earth in the foreground. The text 'Uran Trombay Jawahardweep Pipeline' is overlaid on the right side of the image.

# Uran Trombay Jawahardweep Pipeline

### The Uran Trombay

Jawahardweep Pipeline for Oil and Natural Gas Corporation Limited (ONGC) has been one of the most prestigious projects for Punj Lloyd.

With the pipeline running through two major ports; JNPT and Mumbai, three onshore stretches, one offshore spread, multiple tie-ins, 11 railway and road crossings, this project, a trifle complicated in nature, found Punj Lloyd at its competitive best, both technically and commercially.

ONGC, engaged in exploration of hydrocarbons, has been active in the Western Offshore field on the continental shelf of West India. The field is well developed with an extensive infrastructure of wellhead platforms, process platforms and pipelines.

The pipeline replacement phase consists of replacing a 36" dia oil pipeline carrying oil from Uran to Trombay and Jawahardweep terminals with one

**Only  
Company  
with shallow  
water pipeline  
experience  
in India and  
Indonesia**





30" dia tee-off (on the Uran-Trombay pipeline) from Sheva south to JNPT Terminal, including all related onshore facilities. From upstream the oil is transported from Mumbai High and Heera and Neelam fields to Uran through submarine trunklines.

The scope of work involved providing

complete solutions from survey, detailed engineering, procurement, fabrication, transportation during the preinstallation phase. Installation comprised clearing and grading of ROW, cathodic protection, coating and wrapping, concrete coating, transportation of pipes, materials for sectionalising valves and various terminals, hauling, stringing of coated pipes along the route, trenching, welding, joint coating, laying, crossing work, lowering and backfilling (onshore), trenching and burial (offshore), tying-in, hook-up, hydrotesting, pre-commissioning and commissioning.

### Terminal Work

At the terminals, scope included civil foundations, structural work, installation of mechanical equipment such as pig launchers and receivers with the complicated heavy wall large diameter associated piping, instrumentation

and electrical work which began from the existing operating terminal. The challenge was to do similar installation work in all the 25-year-old terminals, with restricted space and operating equipment.

One of the most critical activities was the hot tapping in the existing crude pipeline of 36" and 24" dia pipelines, without shut down of operating plant in Trombay and Jawahardweep terminals.

The terminal work was at the Uran, Sheva South, Sheva North, Trombay, Jawahardweep and JNPT Terminals.

Apart from launcher/receiver, control rooms included design, supply, transportation, installation, testing and commissioning of two metering skids at Jawahardweep and JNPT. The first skid measuring 23 m x 4.2 m weighing 90 T was transported on barge and unloaded on a temporary jetty using a 250 T crane, and a 98



**The terminal work was at the Uran, Sheva South, Sheva North, Trombay, Jawahardweep and JNPT Terminals**

tyre trailer. The second skid was erected at JNPT terminal. Another critical activity was the design, supply, transportation, erection, testing and commissioning of loading arms at JNPT jetty.

**Offshore Pipelaying**

Punj Lloyd has over the years established its expertise in pipe laying in offshore and shallow waters. We laid submarine pipelines in varying

water depths of 6 -13 m. This required dredging of 4 m below the sea-bed level for pipe trenches. The dredging equipment consisted of a barge mounted excavator, dipper dredger, trailer suction and cutter suction dredger. The dredged volume of soil and hard rock was 110,000 m<sup>3</sup> which was side cast on both sides of the excavated trench. After completion of the pipelaying, the same material was used to backfill the pipe trench.

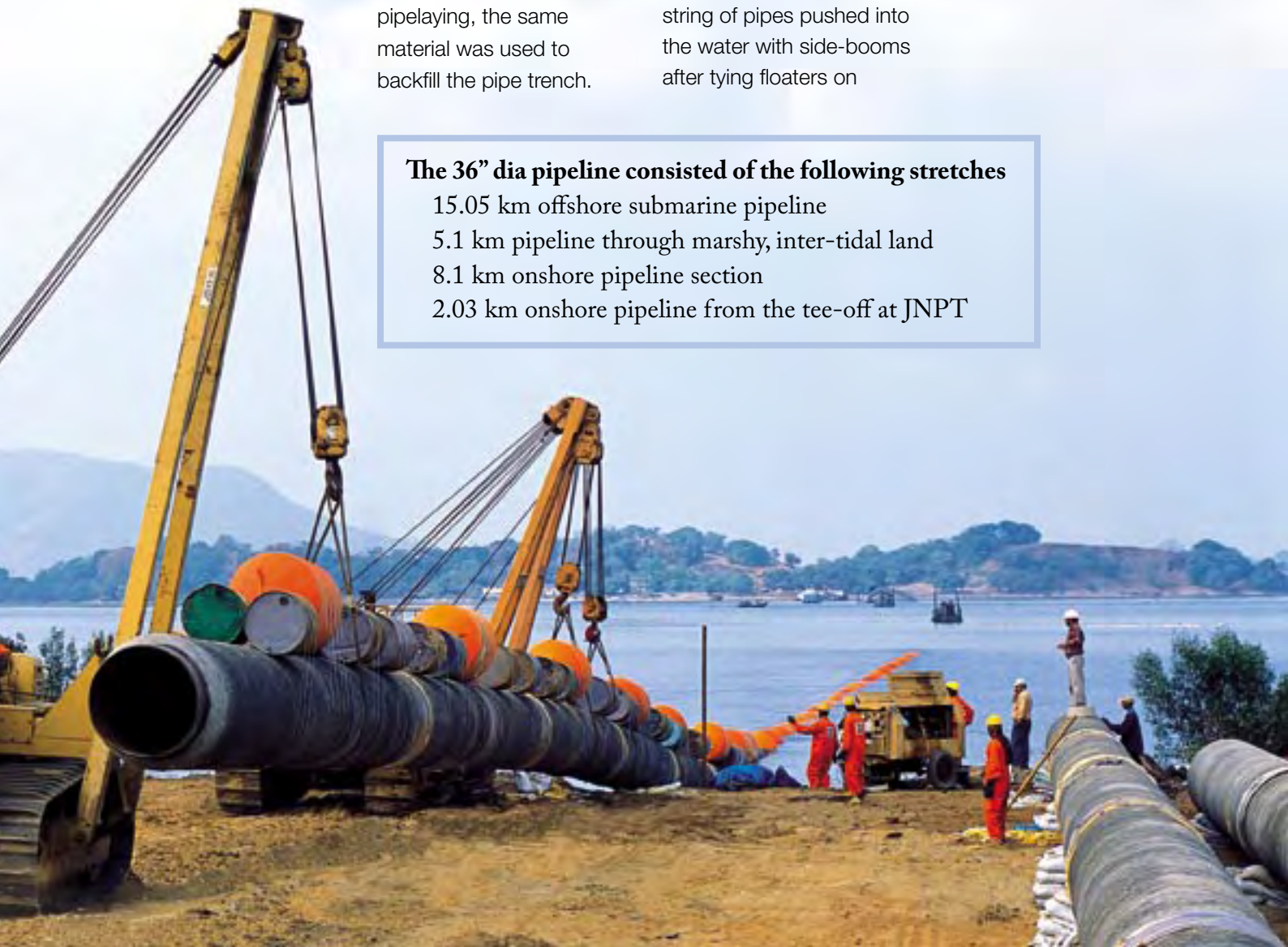
**Pipelaying in marsh**

Special techniques were deployed to lay the pipeline by push pull method at inter-tidal zones, using a shallow water barge specially designed to work in a draught of 1.8 m only.

Punj Lloyd mobilised 'Yuheti-180' - a special barge with dimensions 52 m x 15 m, from its fleet of amphibian equipment in Indonesia. Yuheti was pulled by a 2,500 hp ocean going tug boat across the Indian ocean. Welding of pipe was done on the barge and the string of pipes pushed into the water with side-booms after tying floaters on

**The 36" dia pipeline consisted of the following stretches**

- 15.05 km offshore submarine pipeline
- 5.1 km pipeline through marshy, inter-tidal land
- 8.1 km onshore pipeline section
- 2.03 km onshore pipeline from the tee-off at JNPT



# Uran Trombay Jawahar

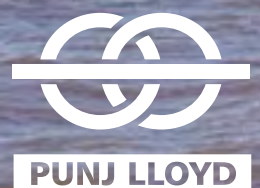




# ardweep Pipeline



update







The dredged volume of soil and hard rock was 110,000 m<sup>3</sup> which was side cast on both sides of the excavated trench



the pipeline. As an extra support the section was also pulled by a barge-mounted winch of 30 to 35 T capacity. To maintain the required alignment of the pipeline, guide pipes were driven on both sides of the pipe central line with a Vibro Hammer. This operation was completely sea tide dependent and at times the team had to wait for the spring tide as they approached the shore, due to high ground level and lack of water for floatation.

On several occasions, this barge, along with other supporting vessels, used to get grounded and cut off from the main waterway thus posing a restricted working window.

The work on Yuheti was carried out against heavy water currents which called for installation of additional anchors, with new spuds for more stability. This was the first time Yuheti had been used to work in 3 – 6 m strong currents.

### Pipelay Barge

Punj Lloyd also designed a special lay barge - SHIVA I with dimensions of 70 m x 23 m for conventional offshore laying in the deeper sections of the route. Specially designed to work in a low draught of 4 m, SHIVA I is fitted with a pipe handling system, 8 point mooring system, special 60 T tensioner, Abandon & Recovery winch and long boom cranes. The barge is fitted with the latest barge management system, 8 point mooring along with the stinger control to monitor the pipe profile accurately, while the pipeline is laid in the sub sea trenches.

The automatic welding methodology used for the conventional offshore laying by SHIVA I made



the process faster compared to manual welding. Shiva performed exceptionally well with no breakdown.

The critical aspect of the job was to maintain a safe distance from the existing lines which ran parallel to the proposed route. The anchor patterns and positions were very closely monitored to avoid any possible damage to existing lines.

The project team ensured that no damage was caused to the environment during the execution. A part of the route which was the habitat for migratory birds like cranes and flamingos was left totally untouched. Strict local liaisoning was done to avoid any damage to the fishing community in and around the route.

Presently all the offshore work is complete and the trench backfilling is under progress, which is being hampered by torrential rains in Mumbai.

### Offshore Tie-Ins

Punj Lloyd has developed a unique technology of making offshore tie-ins using specially built low draught flexi-float pontoon and crane barges along with the Yuheti and SHIVA Davits, which were very challenging due to tidal variations. The flexi-float is capable of lifting and holding 3 – 4 pipes of



**'Shiva I' and 'Yuheti 180' from our fleet in Indonesia, were pulled by ocean going tug boats across the Indian ocean**

## Uran Trombay Jawahardweep Pipeline project



each of the laid sections to be tied in and facilitates tie-ins from a floating work platform.

### Offshore Accommodation Facilities

Accommodation for technicians - engineers and workmen was arranged in a barge with a capacity for 180 personnel. Owing to the diverse cultural background, multi-cuisine food was organised for all personnel.

◆ B Acharya





## Ensuring a brighter future...

### Learning enables

children to utilise their potential to optimal use. Punj Lloyd, understanding the need to develop and educate children for a better tomorrow, has invested substantially in an educational project under the aegis of Pt. Kanahya Lal Dayawanti Punj Charitable Society. Dayawanti Punj Model School, which opened in 2003, has played a commendable role in the development of Sitamarhi, a backward area of Bhadoi in Uttar Pradesh.

The school has developed from being primary to a secondary school, accommodating as many as 700 students and 35 teachers. Currently running classes from the nursery to class 9, it is expected to grow to the senior secondary level, under the 10 + 2 scheme with affiliation to CBSE, Delhi.

Housed in a modern three-storey building, the school is equipped with the latest teaching aids, equipment and technology. Computer education, cultural programmes, indoor and outdoor games and a mid-day meal are routine facilities. The school will soon have a huge multipurpose hall, which will serve both as an auditorium and as an indoor sports court. Measuring 180' x 90', the hall will have a stage fitted with theatre lights for drama and a wooden spring floor, specially designed for Indian dancers to prevent fatigue.

Scholarships providing books, stationery and school uniforms facilitate girls to continue their education. Other deserving students also get scholarships and fee concessions to encourage their parents to send their

wards to school. Although it started as a Hindi medium school, English is being taught, to ensure that children have better employment opportunities when they grow up.

Once a year, as many as 30 children are sent to Delhi to watch the Republic Day parade 2006, providing them exposure to city sights and increasing their confidence to face the world.

### Modern healthcare facilities for the underprivileged

With the objective of providing modern medicare to the poor and the under privileged, Punj Lloyd sponsored a month-long camp of the Lifeline Express programme in Madhya Pradesh. The Lifeline Express is a fully functional five-bogey train, providing the best examination and operation theatre facility on wheels. The camp was held in Ashok Nagar, Guna (a newly formed district) and was formally inaugurated by Jyotiraditya M Scindia,



Member of Parliament.

Besides free cardiac check ups and screening of hearing-impaired patients, a special team of doctors from two Delhi hospitals arrived at Ashok Nagar. At the camp, more than 10,000 patients were examined and some operated for eye, cardiac, ENT problems, polio and cleft lip. Tricycles, crutches are other medical aids were provided to the needy. ♦



# The Bali Retreat

The Bali Retreat as it was called was the second step after Punj Lloyd's acquisition of SembCorp Engineers & Constructors and Simon Carves. For the uninitiated, SembCorp E&C - now known as Sembawang Engineers & Constructors - is the largest engineering and construction company in Southeast Asia, providing one stop solutions to clients in petrochemicals, oil & gas sectors, civil infrastructure, transportation, utilities, pharma and biotech. Simon Carves is a 125 years old engineering company.

The first step was when Chairman, Atul Punj visited the Singapore and Manchester offices to meet the employees of both the companies and outline his plan of action for the new subsidiaries of the group.

The Bali Retreat held over three days at Nusa Dua, included all the top management of Punj Lloyd, Sembawang and Simon Carves, along with their spouses. It was a well thought out move because for the first time, the spouses felt an integral part of the parent organisation. This helped smoothen the integration of three separate entities into a seamless whole.

Mr. Punj's address to



the group stressed that each company would work independently, yet as a cohesive whole, supporting and integrating with each other in common areas of work - Punj Lloyd providing construction expertise to Simon Carves' engineering strength. Or Sembawang providing valuable inputs for MRT and LRT bids in India. As deliberations drew to a close on the third day, the atmosphere was charged with positive expectations. McKinsey & Co. had been engaged to implement the integration of the three companies and after Bali, are working on a plan to put the processes in place.

The evenings in Bali were spent getting to know one another at the poolside barbeque or at the beach dance party. The photos speak for themselves!

◆ Louise Sharma, Punj Lloyd





**The management retreat** in Bali this year was a very special occasion. For me, it represents the chance to meet and establish friendship with colleagues across various locations. Nothing beats meeting up face to face, having that little talk and being able to put faces to many names!

Chairman, Atul Punj, delivered his welcome speech and set the pace

and momentum for the discussion that followed. This is the first get-together for many of us and was an opportunity to share experiences, current work plan and also reflect on the business in various geographies, segments as well as strategies to move the business forward.

While it was hard work all day, everyone chilled and let down their hair in

the evening. One of the highlights was a party by the beach. It started with a traditional Balinese folk dance with a barbeque dinner served by the beach. It must have been the combination of food, drinks and the fantastic environment that put everyone in an excellent mood and high spirits. The party really hit a climax when everyone,

including Atul Punj and Alwyn Bowden, joined in the dancing, particularly to the very popular tune of "Kajrare". Truly awesome!

As the retreat came to a close, I left Bali feeling positive and motivated. We have set our vision high and are ready to start a new journey – a journey that will carry all of us to greater heights!

◆ Brandon Lye, Sembawang E&C

**We were most appreciative that the company had invited partners** along as well. Having partners there seemed to make the whole event more informal, as sometimes these management events can be rather intense affairs.

I particularly enjoyed the evening entertainment especially the beach BBQ where we were treated to some local dancing. This was followed by some energetic dancing from all of us, and that's when we discovered that the Indian ladies like to party. Ann, my wife, who one can say is enthusiastic when it comes to dancing, learned some interesting Indian dance moves as well as the chorus to an Indian pop song. She went on the trips for the ladies and remarked how everyone was keen to socialise, and how well organised everything was!

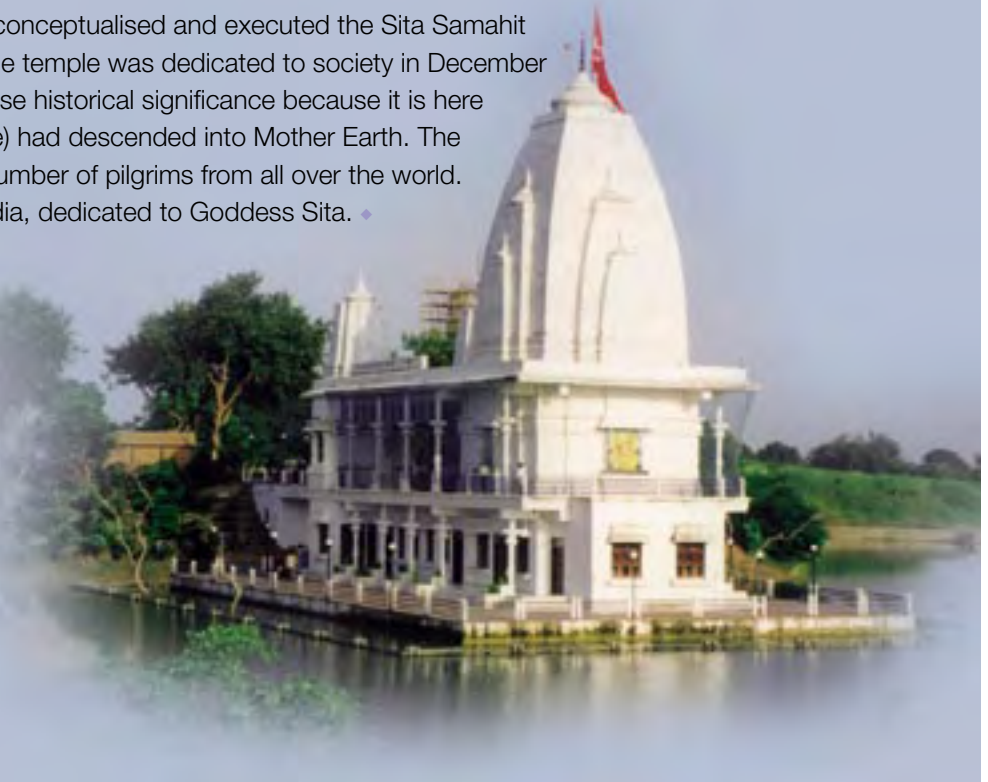
Bali left us with some very fond memories. We would like to extend our thanks to Atul Punj and the management for allowing this to happen, and also to all those responsible for the organisation.

◆ John May, Simon Carves



# A Tribute to the Almighty

Satya Narain Prakash Punj conceptualised and executed the Sita Samahit temple at Sitamarhi (UP). The temple was dedicated to society in December 2000. The place has immense historical significance because it is here that Sita ji (Lord Rama's wife) had descended into Mother Earth. The shrine is visited by a large number of pilgrims from all over the world. This is the only temple in India, dedicated to Goddess Sita. ♦



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