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POUR L'EDUCATION, LA SCIENCE ET LA CULTURE

CONVENTION CONCERNING THE PROTECTION OF THE WORLD
CULTURAL AND NATURAL HERITAGE

CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
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Point 7 de l'Ordre du jour provisoire : Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

Mountain Railways of India (India) (C 944ter)
Chemins de fer de montagne en Inde (Inde) (C 944ter)

6 – 13 December 2019 / 6 – 13 décembre 2019

**REPORT ON THE JOINT WORLD HERITAGE CENTRE/ICOMOS
REACTIVE MONITORING MISSION TO THE UNESCO WORLD HERITAGE
PROPERTY “MOUNTAIN RAILWAYS OF INDIA”, INDIA (C944ter)**



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6-13 December 2019

Table of contents

| | |
|--|-----------|
| Acknowledgements..... | 4 |
| EXECUTIVE SUMMARY AND LIST OF RECOMMENDATIONS | 6 |
| Background..... | 6 |
| Findings | 6 |
| Recommendations..... | 8 |
| 1 BACKGROUND TO THE MISSION..... | 13 |
| 1.1 Inscription History..... | 13 |
| 1.2 Statement of Outstanding Universal Value | 13 |
| 1.3 Issues Raised in the ICOMOS Evaluations at the Time of Inscription and for Subsequent Extensions | 15 |
| 1.4 Examination of the State of Conservation by the World Heritage Committee and Background of the Current Reactive Monitoring Mission | 16 |
| 1.5 Justification of the Mission | 16 |
| 2 LEGAL AND INSTITUTIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF WORLD HERITAGE PROPERTY | 18 |
| 2.1 Protected Area Legislation | 18 |
| 2.2 Institutional Framework | 18 |
| 2.3 Management Tools..... | 19 |
| 3 IDENTIFICATION AND ASSESSMENT OF ISSUES/THREATS | 20 |
| 3.1 Governance | 20 |
| 3.1.1 Management Tools and their Implementation..... | 20 |
| 3.1.2 Staff and Capacities | 25 |
| 3.2 Physical State of the Property | 28 |
| 3.2.1 State of the Property's Major Attributes | 28 |
| 3.3 Interpretation | 38 |
| 3.3.1 Site Museums, Display, Documentation and Archiving | 39 |
| 3.3.2 Dialogue and Interaction with Local Communities & Sustainable Development Policy) . | 41 |
| 3.4 Living Aspects of the Property..... | 42 |
| 4. ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY | 43 |
| 4.1. General State of Conservation | 43 |
| 4.2 Integrity and Authenticity | 43 |
| 5. CONCLUSIONS AND RECOMMENDATIONS | 45 |
| 5.1. Conclusions | 45 |
| 5.2 Recommendations..... | 46 |
| ANNEXES | 51 |
| Annex 1: Terms of Reference of the mission..... | 52 |
| Annex 2: Decision 43 COM 7B.62 | 54 |

| | |
|--|----|
| Annex 3: Programme of the Joint WHC/ICOMOS Reactive Monitoring Mission | 55 |
| Annex 4: Composition of the Mission Team | 56 |
| Annex 5: List of Persons Met..... | 57 |
| Annex 6: Maps of the Property | 60 |

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Acronyms used in this report:

| | |
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| CCMP | Comprehensive Conservation and Management Plan |
| DHR | Darjeeling Himalayan Railway |
| HUL | Historic Urban Landscapes |
| ICOMOS | International Council on Monuments and Sites |
| IR | Indian Railways |
| KSR | Kalka Shimla Railway |
| MoRTH | Ministry of Road Transport and Highways |
| MoU | Memorandum of Understanding |
| NFR | Northeast Frontier Railway |
| OUV | Outstanding Universal Value |
| UNESCO | United Nations Environmental, Scientific and Cultural Organisation |
| WHC | World Heritage Committee |

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EXECUTIVE SUMMARY AND LIST OF RECOMMENDATIONS

Background

The property: Mountain Railways of India was first inscribed on the World Heritage List under cultural criteria (ii) (iv) at the 23rd session of the World Heritage Committee (Marrakech, 1999)¹ under the name “Darjeeling Himalayan Railway”. The property was extended at the 29th session (Durban, 2005) by the addition of Nilgiri Mountain Railway, based on existing criteria and renamed “Mountain Railways of India”² as the extended property. The property was extended once more to include Kalka Shimla Railway at the 32nd session of the World Heritage Committee (Quebec City, 2008)³.

Successive recommendations of the World Heritage Committee judged that measures should be taken as a matter of emergency to address the absence of management tools and heritage conservation capacity within the Indian Railways.

As the abovementioned recommendations and several queries sent by the World Heritage Committee’s Secretariat from 2017 to 2019 had remained unanswered, the Committee requested, at its 43rd session (Baku, 2019), that the State Party of India invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property in order to assist the State Party in assessing the property’s state of conservation, to identify priorities for action and report on these, while also formulating a set of recommendations for the State Party aimed at preventing further erosion of the property’s Outstanding Universal Value (OUV).

The Reactive Monitoring mission (hereafter Mission) inspected the Darjeeling Himalayan Railway (hereafter DHR) as requested by the World Heritage Committee, and the Kalka Shimla Railway (hereafter KSR) as per the request of the State Party. This report refers to both of these; the Nilgiri Railway was not inspected by the Mission.

Findings

In fulfilling its Terms of Reference, the Mission came to the findings outlined below.

State of Conservation of the Property and Specific Conservation Issues

- The operational and functional integrity of the two components visited (DHR and KSR) remains without major concern. However, the ongoing commitment by Northeast Frontier Railway (NFR) to provide adequate specialised skills and equipment for the maintenance of the steam locomotives and rolling stock of the DHR is critical to the continued conservation of these components of the railway and their continued operation, which was identified as a key contributor to the OUV.
- The condition of the heritage attributes of OUV appeared generally fair to good; station buildings, architectural elements and other elements of industrial heritage at the DHR and KSR are at risk of deteriorating if professional heritage expertise is not involved in the planning, management, maintenance, conservation and adaptation of these structures. This would negatively impact on the OUV of the property.
- The encroachment issues should be dealt with by focusing on practical and workable

¹ CONF209 VIII.C.1 (<https://whc.unesco.org/en/decisions/2589>)

² 29 COM 8B.31 (<https://whc.unesco.org/en/decisions/494>)

³ 32 COM 8B.28 (<https://whc.unesco.org/en/decisions/1489>)

solutions, and the rules and regulations should be clarified with the formal establishment of the boundary and buffer zone for the DHR. It is noted that, while DHR has addressed the issues of encroachment on its land and operations, the ongoing issue of the potential negative impacts of developments in the immediately adjacent buffer zone remains and would have to be resolved through the proposed buffer zone management mechanisms.

- A positive contribution has been made through the recent reconstruction and restoration of two station buildings on the DHR destroyed by civil unrest in 2017 and reported track maintenance issues should be resolved, at least in the short term, by the current programme of sleeper replacement (scheduled to be completed in 2020) and the completion and implementation of the Track Maintenance Manual, which is being developed as part of the CCMP process. The fact that the Kalka and Shimla stations on the KSR were recently modernised without apparent input from relevant heritage experts is nonetheless regrettable.
- Management of waste in DHR and KSR relates to an issue of national concern and should be addressed in consultation with the relevant authorities, as well as the increased awareness and involvement of local populations in control and clean-up operations. It is noted that NFR has completed a clean-up drive to address waste accumulation and that follow-up clean-ups are planned, with the cooperation of local authorities and communities.

Progress in finalising a Comprehensive Conservation and Management Plan (CCMP) for DHR

- The draft CCMP (draft of October/November 2019) has been developed over four years by heritage consultants working in close liaison with the UNESCO Office in New Delhi and Indian Railways (IR). The Draft CCMP is currently under consideration for approval by IR. The proposed definition of the property boundaries and buffer zone and the official consultation mechanism described therein appear to be holding up the final approval of the Management Plan.
- The draft CCMP responds to the three recommendations made by ICOMOS in 1999 and the four made by the World Heritage Committee in 2019;
 - Creation of a heritage conservation unit (1999) / establish a conservation and management unit for the property (2019);
 - Establishment of a buffer zone (1999) / submit proposals to clarify the property's boundary and define a buffer zone (2019);
 - Submit details of the proposed policy and legal instruments to improve the protection and management of the property (2019);
 - Establishment of an adopted management plan (1999) / implement the CCMP once it has been reviewed by the World Heritage Centre and the Advisory Bodies (2019)

Strengthening Governance & Management and Increasing Capacities for Planning and Conservation

- The completion, adoption and implementation of the draft CCMP currently under consideration would formalise the commitment to this objective, reflecting all of the stakeholders and their respective roles and jurisdictional duties. The need to consider sustainable development, given the particular nature of the OUV of the property and its setting in a vibrant and developing environment, suggests that the CCMP might be augmented with policies addressing sustainable development within the buffer zone, and

a formal consultation and decision-making mechanism should be established for the property and buffer zone, with the participation of all major stakeholders;

- A heritage unit with high-profile, in-house heritage conservation expertise should be established and integrated with the management of DHR / all three component railways. This would provide a professional heritage perspective in decision making and enhance general awareness and training among railway staff on the values of the property and its conservation. It is noted as a positive contribution that a heritage conservation unit has been identified at NFR zonal level, and a monitoring heritage unit has been established at Railway Board level. However, there is no professional heritage conservation expertise engaged in these units at the line-management decision-making level, reliance being instead placed on contract heritage expertise that might be engaged on a project-by-project basis.
- Further awareness-raising and capacity building are required for the non-heritage staff of the property in general.
- Formal legal recognition of the railways as heritage sites, either through existing legislative mechanisms or new legislation tailored for that purpose, would strengthen public and government recognition of their values and potentially broaden the range of heritage expertise available to advise management decision making.

Reviewing Progress in clarifying Boundaries and Buffer Zones

- The property boundary of the DHR is still being negotiated between NFR, the Ministry of Road Transport and Highways (MoRTH) and the Government of West Bengal. The draft CCMP currently being finalised will provide the final boundary definition and maps when these negotiations are completed.
- The buffer zone proposed in the Draft CCMP is subject to discussions between the various stakeholders who manage the related land. The Draft CCMP recommends that the approaches to the management of the buffer zone be agreed upon through a multi-party Memorandum of Understanding (MoU). The method of establishing this MoU and the resulting consultative mechanisms are actively being considered by several key stakeholders with whom the Mission held discussions.

Recommendations

The Mission makes the recommendations below to the State Party.

Governance

For DHR

1. Provide necessary guidance and consultation for the finalization and adoption of the Comprehensive Conservation and Management Plan (CCMP) by:
 - a) officially adopting the boundary of the DHR component in conformity with Paragraphs 99-102 of the *Operational Guidelines* for the Implementation of the World Heritage Convention and, after consultation with other stakeholders, its buffer zone; reporting on the process and/or outcome to the World Heritage Convention's Secretariat with the final map(s) showing the above. This requires legal clarification of what land is to be included in the property, in consultation with the concerned stakeholders;
 - b) concluding a Memorandum of Understanding (MoU) between all major stakeholders (i.e. the Ministry of Railways (as primary coordinator), the West Bengal Government and the

Ministry of Road, Transport and Highway (MoRTH) and their various administrative branches operating in areas adjacent to the DHR) to ensure a shared understanding of duties and responsibilities for the management of the property and its buffer zone. This includes decisions on policies to be applied for the sound preservation of the property and its buffer zone, especially the practical process of how to deal with existing cases of encroachment, the management of the landscape, and rules and regulations for major development and/or conservation initiatives that may impact the property's OUV in the future in conformity with Paragraph 172 of the *Operational Guidelines for the Implementation of the World Heritage Convention*;

- c) considering the suggestion of the Chief Secretary of the West Bengal Government that the CCMP could be expanded to include sustainable development objectives, and hence be renamed the Comprehensive Conservation, Management and Sustainable Development Plan (CCMSDP). This decision should be made in consultation with the Ministry of Railways, the State Government and the Ministry of Road, Transport and Highway as part of their discussions following the adoption of the CCMP and in preparation of the aforementioned MoU (see 1.b). This expansion of the role of the CCMP could be agreed as a revision of that document;
 - d) adopting and revising, as necessary, the management guidance documents attached to the CCMP, i.e.:
 - the Disaster Risk Management Manual and Disaster Risk Management Plan,
 - the Built Heritage (Architectural) Conservation Manual,
 - the Carriage and Wagon Operating and Maintenance Manual,
 - the 'B' Class Steam Locomotive Operating and Maintenance Manual,
 - the Track Maintenance Manual.
2. Set up an official consultation, decision-making and implementation mechanism for stakeholders, including statutes, rules of procedure, a definition of membership and a schedule of meetings, to implement the CCMP/CCMSDP and policies related to the World Heritage property. This body should include community representatives to involve civil society in the management of the property and buffer zone, which directly impacts their daily lives.
 3. Further investigate the formal legislative recognition of the heritage values of the DHR and the other component railways, either through the application of existing legislative measures for heritage or through the development of legislation specific to the DHR and the Mountain Railways of India, or a combination of these approaches.
 4. Establish a formal mission statement for the management entities of the three component sites of the property (see section 3.1.2 for a definition and discussion of the mission statement);
 5. Ensure clear consultation and information flow between the State Party's various authorities (the National Commission for UNESCO, the Ministry of Human Resource Development, the Ministry of Railways, the Archaeological Survey of India, and the Permanent Delegation of India to UNESCO) and the World Heritage Convention's Secretariat.

For KSR

6. Establish a comprehensive, up-to-date Management Plan, notably with the elements requested by the World Heritage Committee in Decision **32 COM 8B.28** (Quebec City, 2008). The current plan is out of date and does not comply with the current expectations for the

conservation and management plan for a World Heritage property.

For Nilgiri Railway

7. Establish a comprehensive, up-to-date Management Plan. The current plan is out of date and does not comply with the current expectations for the conservation and management plan of a World Heritage property.

Management

For all three component sites

8. Maintain the current capacity to sustain the mechanical and functional operation of the Railways, review additional needs as necessary to address specific requirements, and adjust resource allocation to guarantee the safe and secure operation of the Railways.
9. Strengthen the national capacity of IR for the management of heritage-related components and aspects of the property to inform the decision-making process with professional advice and expertise for heritage conservation, by:
 - a) establishing a high-profile, in-house expert position within DHR or the Zonal HFR heritage unit, or within a heritage unit integrated with the three components of the property. This heritage professional would be involved in the planning and decision-making processes for all issues relating to the management and preservation of heritage components of the property, including the maintenance and repair of the elements of engineering/industrial heritage, historical buildings, landscape and other values associated with OUV of the property;
 - b) ensuring that the abovementioned expert and the heritage unit have formal membership in the decision-making mechanisms when dealing with the preservation of heritage values of the property;
 - c) exploring opportunities to provide managers and general staff working in mechanical and functional positions in the property's management entities with training and professional learning opportunities, thereby deepening their awareness and knowledge of holistic heritage management and the values to be preserved. This might be facilitated through on-site mentoring by heritage-skilled staff and through the staff's involvement in national or international training programmes and related events.

For DHR and KSR

10. Establish a mechanism to achieve the participation of local organisations and community groups through consultations, information sharing concerning the daily function and future outlook of the Railways, to address associated values, socio-economic and educational concerns, and environmental considerations. Activities such as participative exhibitions and awareness-raising around waste management and railway clean-up campaign would be encouraged as a means of enhancing the bond between the local communities and the Railways.

For DHR

11. Commission an independent assessment of the short-, mid- and long-term needs of the continuing steam operation and the capacity of the Tindharia workshop (and in the case of diesel operations off-site IR maintenance capacity) to adequately support those needs. This might include, but should not be limited to: an assessment of the adequacy of in-house skills

and staff training, at present and in the future; the provision of adequate engineering capacity to maintain the engines and rolling stock (e.g. availability of machinery, replication of engine component, on- or off-site repairs, stocktaking of on-hand components for rapid maintenance, maintenance scheduling and staffing adequacy); and the capacity of the Tindharia workshop site to continue providing ongoing maintenance, given recent reductions in the site land area due to landslides; and any other improvements that may be needed.

Conservation

For all three component sites

12. Ensure that ongoing and future maintenance, repair, conservation or adaption for new uses of station buildings, architectural elements and associated structures is guided by specific conservation guidelines to make them consistent with the preservation of heritage attributes justifying the OUV of the property.
13. Establish baseline data by inventorying, recording and gathering historical plans and documents for all important elements mentioned above, to enable tracking of the conservation status over time. The development of rural settlements, which is encouraged by the railway and part of the property's OUV, has meant that many changes occurred in the immediate setting of the railway over time. The established baseline(s) for monitoring and conservation will have to take this evolution into account, which continues after inscription while ensuring that new developments do not entail any negative encroachment on the OUV. In the case of railway buildings, conservation actions should encompass legitimate changes dictated by operational needs over time that contribute to, rather than diminish, the OUV and its attributes.
14. Require Heritage Impact Assessments (HIA), prepared in accordance with the 2011 ICOMOS Guidance, for any major works or operations which may impact the property's attributes of OUV.
15. Explore the possibility of establishing guidelines for landscape description and monitoring, including research and statistics on land use and associated intangible heritage elements, such as traditional/vernacular techniques and agricultural practices, enabling monitoring over time and informing policy decision-makers on the landscape management of the buffer zone.
16. Engage in discussions with relevant stakeholders (provincial and local district authorities, civil society, local community groups) on the ways to improve waste and litter management as a means to keeping the World Heritage property clean and in decent condition for both local and outside visitors.

For DHR

17. Explore the possibility of adaptive re-use of the Siliguri Town station buildings.

For KSR

18. Ensure that substantial railway buildings, such as the Crow Borough Guest House, are investigated and their maintenance and repair supported by (a) heritage expert(s).
19. Provide the elements requested to respond to recommendations made by the Committee in 2008, namely integrating a detailed technical and architectural inventory of the stations and annexe buildings into the Management Plan, indicating their state of conservation and the planned programs of works; stepping up control of encroachment on land; and more extensive local cooperation. Conservation, upgrading or adaptation of buildings for ongoing or new uses should be based on an understanding of their heritage values and/or attributes and their

conservation needs, supported by expert heritage input.

Interpretation/Education

For all component sites

20. Ensure the systematic inventorying of all moveable heritage associated with the Railways and their history, with adequate display and storage conditions.
21. Promote, through existing displays and online information, the three component sites and their respective history and values, in order to contribute to a holistic understanding of the World Heritage property.

For DHR and KSR

22. In the main museum of DHR in Ghum and the station museum of KSR, include an introduction to the other two component sites, in an attempt to raise visitor awareness and interest in the other components of the property and to obtain a wider knowledge about India's Railways.

For DHR

23. Pursue the possibility of establishing a museum dedicated to printing within the Kurseong Railway Printing Press building, and preserve remaining historical equipment and other important elements, as appropriate.
24. Document the objects on display and in storage at the Kurseong Archives Display and implement a digitisation programme for these artefacts so that the data and images could be inventoried for historical records, research, and future special exhibitions. Many of the documents and storage facilities also require immediate and periodic curatorial/conservation advice and treatment.
25. Expand the DHR website to include a section on the stations, workshops museums and displays along the line, informing visitors about these interesting places and how they can help them understand the history of the DHR. A linked 'slideshow' of the existing and future display panels would provide an interesting and informative introduction for visitors.
26. Develop and implement a rolling programme of special exhibitions or participatory activities, such as photo exhibition (using the 'photovoice' approach) at selected stations to provide opportunities to local inhabitants to present their experiences, their links with the Railway and its place in their daily lives over the generations. This would focus attention on some of the intangible values of the DHR.

1 BACKGROUND TO THE MISSION

1.1 Inscription History

The property was first inscribed on the World Heritage List as the Darjeeling Himalayan Railway in 1999, as the most outstanding example of a hill passenger railway. Opened in 1881, its design applies bold and ingenious engineering solutions to the problem of establishing an effective rail link across a mountainous terrain of great beauty.

The property was first extended to include the Nilgiri Mountain Railway, a 46-km long metre-gauge single-track railway in Tamil Nadu State, in 2005. First proposed in 1854 and completed in 1908, this railway, scaling an elevation of 326 m to 2,203 m, represented the latest technology of the time.

The property's second extension was completed in 2008 with the Kalka Shimla Railway, a 96-km long, single-track working rail link built between 1898 and 1903 to provide a service to the highland town of Shimla. It is emblematic of the technical and material efforts to disenclave mountain populations through the railway.

All three railways are still fully operational and the significance of this property lies in their continuing use as working railways. In this sense, their Outstanding Universal Value is greatly embedded with its socio-economic functions over the history of India and the country's evolving social transformation.

1.2 Statement of Outstanding Universal Value

The following text is taken directly from the WHC citation at the time of listing of the Mountain Railways of India in 2008.

Brief synthesis

The Mountain Railway of India consists of three railways: the Darjeeling Himalayan Railway located in the foothills of the Himalayas in West Bengal (Northeast India) having an area of 5.34 ha., the Nilgiri Mountain Railways located in the Nilgiri Hills of Tamil Nadu (South India) having an area of 4.59 ha. and the Kalka Shimla Railway located in the Himalayan foothills of Himachal Pradesh (Northwest India) having an area of 79.06 ha. All three railways are still fully functional and operational.

The Mountain Railways of India are outstanding examples of hill railways. Opened between 1881 and 1908 they applied bold and ingenious engineering solutions to the problem of establishing an effective rail link across a mountainous terrain of great beauty. They are still fully operational as living examples of the engineering enterprise of the late 19th and early 20th centuries.

The Darjeeling Himalayan Railway consists of 88.48 kilometers of 2 feet (0.610 meter) gauge track that connects New Jalpaiguri with Darjeeling, passing through Ghoom at an altitude of 2258 meters. The innovative design includes six zigzag reverses and three loops with a ruling gradient of 1:31.

The construction of the Nilgiri Mountain Railway, a 45.88 kilometer long meter-gauge single-track railway was first proposed in 1854, but due to the difficulty of the mountainous location the work only started in 1891 and was completed in 1908. This railway, scaling an elevation of 326 meters to 2,203 meters, represented the latest technology of the time and uses unique rack and pinion traction arrangement to negotiate steep gradient.

The Kalka Shimla Railway, a 96.6 kilometer long, single track working rail link built in the mid-19th century to provide a service to the highland town of Shimla is emblematic of the technical and material efforts to disenclave mountain populations through the railway. The world's highest multi-arc gallery bridge and the world's longest tunnel (at the time of construction) of the KSR were a testimony to of the brilliant engineering skills applied to make this dream a reality.

These railways are outstanding examples of innovative transportation systems built through difficult terrain, which had great influence on the social and economic development of their respective regions.

Criterion (ii): The Mountain Railways of India are outstanding examples of the interchange of values on developments in technology, and the impact of an innovative transportation system on the social and economic development of a multicultural region, which was to serve as a model for similar developments in many parts of the world. The Mountain Railways of India exhibit an important cultural and technologically transfer in the colonial setting of the period of its construction, particularly with regard to the eminently political function of the terminus station, Shimla.. The railway then enabled significant and enduring human settlement, of which it has remained the main vector up to the present day.

Criterion (iv): The development of railways in the 19th century had a profound influence on social and economic developments in many parts of the world. The Mountain Railways of India are outstanding examples of a technological ensemble, representing different phases of the development in high mountain areas. The Mountain Railways of India are outstanding examples of how access has been provided to the plains and plateaus of the Indian mountains. They are emblematic of the technical and material efforts of human societies of this period to disenclave mountain populations through the railway. They are well-maintained and fully operational living lines. They are used in a spirit and for purposes that are the same as those at its their inception.

Integrity

The entire length of all three railways including the stations is included within the property boundaries. The boundaries of the property are adequate. The structural integrity has been maintained and the general infrastructure of the lines is today very close to the characteristics of the lines as they originally were. The functional integrity has been preserved though the lines have been systematically repaired and maintained. The integrity of use has been maintained and from the outset the lines have been used for large-scale and permanent transport, with all the characteristics associated with railway disenclavement of mountain areas. Traffic has been regular and continuous up to the present day, and it provides the whole range of initial services, particularly for passengers and tourists. The property is in a generally good condition with regard to infrastructure, technical operation and social use that enables it to adequately express its values. The main threats to the properties are the climatic and geological risks, which however have always formed part of the everyday operation of the three railways. All three areas might be considered areas for potential earthquakes. There is however also the risks of unauthorized encroachment close to the Kalka Shimla Railway, particularly in the buffer zone.

Authenticity

The tracks have been re-laid and retaining walls rebuilt at various points during the highly eventful history of the railways' operation, regularly disturbed by monsoon rain, landslides and rock-falls. Various station buildings on the three railways have undergone reconstruction during the course of the century, especially those destroyed by earthquake or fire. These buildings are being restored and maintained in their latest form. Further railway related structures have been restored and maintained in their original form. Though new rolling stock and engines have been introduced, the remaining original ones have also been maintained. This includes the famous B-class steam engines of the Darjeeling Himalayan Railway. Original 4-wheeled carriages and bogie-type

carriages are still in use. The vulnerabilities are clearly linked to the fact that these properties are functioning railways which require constant repair and the changing of parts. However care has been given to ensure that these parts retain the design and quality of the original.

Protection and management requirements

The owner of the three properties is the Railway Ministry of the Indian Government. All the laws of the Indian Union relating to railways apply to the property, in particular: the Railway Act (1989), for technical protection measures and the Public Premises Act (1971) which in particular provides the right to expel unauthorized occupants. The legal protection in place is appropriate and the Ministry of Railways is making efforts to apply the legal provisions against unauthorized occupation of land within the boundaries properties as well as the buffer zone.

The management is guaranteed by the Ministry of Railways and the relevant branch offices. There is a Property Management Plan, which deals with the management of the land, the buildings, the track, the bridges, and the tunnels for two of the three lines (i.e. Nilgiri and Kalka Shimla) however recommendations have been made to strengthen these in relation to architectural features and encroachments on the property boundaries. The resources are provided by the Indian Ministry of Railways. Train services, station facilities, platforms and passenger amenities are provided for visitors and commuters. In addition, special tourist trains are promoted. The professional personnel of the three railways, and the technical assistance departments of Indian Railways, are fully operational, and are well prepared for climatic and geological risks. Over a century of operation, they have always managed to restore the integrity of the line. They generally intervene within a short lead time, which contributes to the monitoring of the state of conservation of the property. The three railways have the technical documents necessary for the maintenance of track, infrastructure, rolling stock and stations. Indian Railways has a central research department that considers climatic and geological effects with an impact on mountain lines (RDSO). It recommends protective action, particularly to prevent landslides.

The three mountain railways have been in service continuously from their inception. They are in a good state of general conservation, and are maintained on a regular and permanent basis.. The traditional arrangements for track maintenance by railway personnel are considered satisfactory to ensure the present and future conservation of the line. Both the Nilgiri and Kalka Shimla Railway Lines have Management Plans which outline the processes and practices that ensure the ongoing conservation of the lines and their conservation values. However the first of the lines to be listed i.e the Darjeeling Railway still does not have an endorsed Conservation Management Plan. In addition, the architectural management of the Kalka Shimla Railway station buildings and their annexes, to ensure respect for the property's Outstanding Universal Value, has not been sufficiently taken into account, and a medium-term project should be drawn up for this purpose. The management authorities should step up control of encroachment on land in the nominated property zone and in the buffer zone

In regard to the Nilgiri and Kalka Shimla Railways the management plans should be substantially improved in terms of architectural conservation and condition monitoring, and by involving the territorial authorities, particularly in relation to visitor management to ensure that the Outstanding Universal Values are protected.

1.3 Issues Raised in the ICOMOS Evaluations at the Time of Inscription and for Subsequent Extensions

The ICOMOS Evaluation at the time of the nomination, in 1999, specifically mentioned concerns relating to the absence of buffer zone along the length of the DHR and the need for the elaboration of an environmental management plan in association with all stakeholders, for the protection of

the landscape along its route. It recommended the creation of a heritage conservation unit, the establishment of a buffer zone along the length of the railway line and the station, and the establishment of an adapted management plan.

The Evaluation pointed out the need to provide specific heritage expertise within the NFR staff and recommended the transfer of the responsibility for the conservation of the DHR to a special unit with expertise in heritage matters and related management skills for the railways' operation.

In 2008, when the property was extended to include the Kalka Shimla Railway, ICOMOS issued three recommendations. They included:

- a) A proposal that the State Party draw up, within the framework of the management plan, a detailed technical and architectural inventory of the stations and annexe buildings included in the property, indicating their state of conservation and the planned programme of works, to ensure respect for the property's outstanding universal value;
- b) The upscaling of control of encroachment on land in the nominated property zone and the buffer zone; and
- c) More extensive local cooperation, as part of the management plan, to more fully present the property's outstanding universal value and to organise visitor arrangements with this in mind.

1.4 Examination of the State of Conservation by the World Heritage Committee and Background of the Current Reactive Monitoring Mission

By Decisions **CONF 209 VIII.C.1** and **32 COM 8B.28**, adopted at its 23rd (Marrakesh, 1999) and 32nd (Quebec City, 2008) sessions, the World Heritage Committee respectively issued recommendations concerning the management of the property as described in 1.4 above. These recommendations remain to be responded to.

Between June 2017 and February 2019, following the submission of information by third parties, the World Heritage Centre sent four letters to the State Party concerning the reportedly deteriorating state of conservation of the DHR and requested the State Party to verify the information regarding i) lack of monitoring and general maintenance; ii) serious encroachment by illegal construction; and iii) dumping of waste along the tracks. In the meantime, a mission carried out by the UNESCO Office in New to Darjeeling and Kolkata (19–29 May 2018) made observations relating to the conservation of heritage assets and attributes that underpin the OUV of the property. These concerns included the absence of the DHR's boundaries and buffer zone, possible encroachment by illegal construction and from waste dumping along the tracks, as well as maintenance of station buildings.

Based on the analysis of the situation, the World Heritage Committee, at its 43rd session (Baku, 2019) concluded that there is concern about the erosion of attributes bearing the OUV, in particular for the case of DHR, as a result of management issues faced by the property over the 20 years since its inscription.

1.5 Justification of the Mission

Decision **43 COM 7B.62** of the World Heritage Committee (Baku, 2019) formally requested the State Party to invite a joint World Heritage Centre/Reactive Monitoring mission to assist the State Party in assessing the property's state of conservation, to identify priorities for action and report on these, while also formulating a set of recommendations for the State Party aimed at preventing further erosion of the property's OUV.

The Terms of Reference for the Mission are provided in **Annex 1 and the abovementioned Decision in Annex 2.**

2 LEGAL AND INSTITUTIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF WORLD HERITAGE PROPERTY

2.1 Protected Area Legislation⁴

The three railways inscribed are owned by the Indian Railways (IR); therefore, the structures and related buildings are subject to their legislation. However, the zones immediately adjacent to the railway infrastructures are under the jurisdiction of a variety of other authorities, such as the Ministry of Road Transport and Highways and related provincial authorities, and are therefore controlled according to the legislation governing those bodies.

The *Railways Act* of 1989 is the primary legislation used by IR to protect their heritage assets. This is the general act that empowers IR to manage the Indian railway system.

IR and other public authorities can also make use of the *Public Premises Eviction Act* (Eviction of unauthorized occupants) of 1971 to deal with issues of encroachments. Concerning the DHR, there is no official boundary nor buffer zone established.

The 2009 *Manual for Standards and Specifications for Railway Stations* (Section 2.6.2, Architectural Heritage and Preservation) further provides specific instructions on the management and protection of historic structures and heritage aspects of the railway. The same section also underlines the need to incorporate the preservation of heritage structures under the provisions of the Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act) of 1958, as the act protects monuments, sites and remains of national importance and includes railway sites and stations as a category.

Paragraph 429 (b) of the *Indian Railways Works Manual* specifies that station buildings should incorporate features of local architectural heritage wherever possible. When extending or modifying existing station buildings, new construction must harmonize with the architecture of the existing station buildings.

In December 2018, the *Indian Railways Heritage Charter* was promulgated and outlines the commitment of the Indian Railway Administration to restoring, preserving and conserving the railway heritage of India.

2.2 Institutional Framework

Darjeeling Himalayan Railway (DHR)

The administration of the DHR is the responsibility of the Northeast Frontier Railway (NFR), the headquarters of which is located at Guwahati, the capital of the State of Assam. The fixed and moveable assets of the line are documented by the NFR and the buildings are included in a comprehensive register. There is a system of Zonal Heritage Committees to advise on heritage matters and also an Executive Director for Heritage appointed to the Railway Board, who may provide advice from time to time. The broad objective of these Committees is to preserve and maintain heritage assets. The Zonal Heritage Committees are drawn from the zonal staff of Indian Railways, which means that they do not necessarily include heritage experts.

⁴ Information provided by the State Party and in the draft Comprehensive Conservation and Management Plan.

Nilgiri Railway

The management is guaranteed by the Ministry of Railways and the relevant branch offices (the mission did not visit this component site).

Kalka Simla Railway

The component site is situated in States of Haryana (Panchkula District) and Himachal Pradesh (Solan and Shimla Districts) and its daily management is ensured by the Indian Railway's Divisional Office in Ambala.

2.3 Management Tools

DHR

There is no property Management Plan and the boundary and buffer zone are yet to be officially established. The Draft CCMP is currently under consideration prior to being finalised and is yet to be submitted for review by the World Heritage Centre and Advisory Bodies.

Nilgiri Railway

There is a property Management Plan, which deals with the management of the land, the buildings, the track, the bridges, and the tunnels. However, the plan is at least 16 years old and places maintenance of heritage buildings in the hands of the engineering department, with no requirement for professional heritage input. The Management Plan needs substantial revision, as it does not comply with current standards for WH management planning.

KSR

The Kalka Shimla Railway has a Management Plan which was established in 2007. The technical documents necessary for the guidance of the maintenance of track, infrastructure, rolling stock and stations are reported to be kept at the depots of the terminus stations of Kalka and Shimla. The documents concerning land ownership are reported to be at the Central Office in New Delhi and the Divisional Office in Ambala. The mission obtained only the Management Plan and a general information document on this component site. The plan only identifies three buildings as having heritage significance, and the section covering their maintenance does not include any requirement for the input of professional heritage expertise. The Management Plan needs substantial revision, as it does not comply with current standards for WH management planning.

3 IDENTIFICATION AND ASSESSMENT OF ISSUES/THREATS

3.1 Governance

3.1.1 Management Tools and their Implementation

On-going efforts towards the finalization of the Comprehensive Conservation Management Plan (CCMP) of the Darjeeling Himalayan Railway

The establishment, adoption and implementation of a property Management Plan have been a long-standing issue since the property's inscription on the World Heritage List in 1999 when the World Heritage Committee requested the State Party to urgently establish a Management Plan along with a unit responsible for the management of the property. The draft CCMP was drawn up with the assistance of the UNESCO Office in New Delhi, which had been entrusted by the State Party with self-benefitting funds in 2016 at cost of USD 484,357. The draft CCMP was submitted to the State Party in July 2019 and included the issues mentioned in the Decisions by the World Heritage Committee in 1999 and 2019, as follows:

1999:⁵

The Committee drew the attention of the State Party to the recommendations of ICOMOS concerning:

- a) the creation of a heritage conservation unit;
- b) the establishment of a buffer zone along the length of the railway line and the station and;
- c) the establishment of an adapted management plan.

2019:⁶

The Committee requested the State Party to:

- a) Implement the CCMP once it has been reviewed by the World Heritage Centre and the Advisory Bodies;
- b) Establish a conservation and management unit for the property;
- c) Submit proposals to clarify the property's boundary and define a buffer zone;
- d) Submit details of the proposed policy and legal instruments to improve the protection and management of the property.

The mission received the draft CCMP some days before the start of the mission.

In addition to the comprehensive documentation on the inscription history and the legal and institutional setting of the property, the draft CCMP contains, in Chapter 4, an analysis of factors affecting the management of the component sites of the DHR and, in Chapter 5, desired policies and actions, presented as practical benchmarks to be fulfilled.

One of the significant achievement through the CCMP drafting exercise is certainly the production of 97 detailed maps of the area from its northern end of Darjeeling Station to New Jalpaiguri, which attempts to clarify the **property's boundaries**. At the time of inscription, the nomination file stated that "The property proposed for inscription comprises of an 88.48-km long railway line and associated service buildings and sheds along this route. It is not possible to exactly quantify the area in ha. There is no buffer zone." The file also mentioned that "The Darjeeling Himalayan

⁵ CONF 209 VIII.C.1

⁶ 43 COM 7B.62

Railway comprises of a 0.610-metre gauge line of length 88.48 km connecting New Jalpaiguri with Darjeeling.” The draft CCMP states that the land owned by the Indian Railways or the Ministry of Road Transport and Highways was evaluated around 20 m (63 feet) in width, but this definition could be reconsidered for the due purpose of including all railway property, rather than identifying the exact width all over the railway, especially since the size, geographical condition and preservation requirements for the property may differ from one spot to another. It seems highly important that, as suggested by sub-chapter 5.3 of the draft CCMP, all stakeholders agree on the principles of determining the DHR boundary in such a way that it includes all railway property under the direct responsibility of the Ministry of Railways.

It is important to clarify the issue of the **boundary** to ensure a coherent approach to the issues of ‘encroachment’ mentioned in the past reports and the Committee’s Decision. The mission agrees with the principle suggested in the draft CCMP, which was stated again in meetings with stakeholders, namely that it is not proposed to apply a blanket measure of removing the existing habitats, buildings and other constructions. This would be impossible for social reasons and because the absence of an official boundary and buffer zone since the inscription implied that regulations concerning the construction and use of the areas immediately adjacent to the property and surrounding it remained unclear for many years. Furthermore, the original and ongoing role of the railway in stimulating human settlement in the area was identified as one aspect of the OUV of the property. As a practical solution, the mission suggests that all stakeholders be involved in meetings to determine what are the criteria for encroachment, how encroachment might be controlled, and if removal of existing structures is necessary how that should be dealt with. However, from the time of the official adoption of the CCMP, it would be desirable to apply clear regulations for land use and to establish processes to grant permits for new constructions within and around the property’s boundaries and buffer zone.

The **creation of a buffer zone**, as suggested in chapter 5.4 of the draft CCMP, is an important issue not only because it is necessary to preserve the character of the area immediately adjacent to the railway to ensure the functional and historical integrity of the property, but also to preserve and protect the natural and cultural landscapes that have developed over time as a consequence of the railway’s operation; as these now provide its landscape setting, they are integral to the protection and appreciation of the property’s OUV. This includes mountain and forest views, areas of tea cultivation, close and distant views of rural settlements and towns, and the foreground for important distant views of the Himalayan peaks.

For all these reasons, there is a need to establish a Memorandum of Understanding (MoU) between all the major stakeholders that have jurisdiction over the DHR property and its surrounding areas (in particular the Ministry of Railways (as primary coordinator), the State Government and the Ministry of Road, Transport and Highway). This MoU should clarify the roles, responsibilities and mutual obligations of each party to ensure the preservation and protection of heritage values of the property. This would include the administrative parts of those main agencies (such as local government administrations, West Bengal Works Department, forestry and agricultural agencies, and tourist agency) as well as the local bodies representing communities along the railway.

Through several meetings with direct stakeholders, the Mission had a positive impression that all of them are willing to cooperate to ensure their part of the responsibility.

The Mission noted that the Chief Secretary of the West Bengal Government suggested that the CCMP could be expanded to include sustainable development objectives, and hence be renamed the Comprehensive Conservation, Management and Sustainable Development Plan (CCMSDP). This suggestion is considered legitimate, not only to cope with the sustainable development policy for the World Heritage sites but also of the areas surrounding the property (within the buffer zone) that are in constant evolution in terms of demography, social and economic developments. The

Plan could provide, in this regard, an overarching vision of how the management of the property should be directed by harmonising preservation imperatives and requirements in development, and it should be written and structured in a way that the benefits and obligations would be understood by all stakeholders. The Mission recommends that this suggestion be considered further by the Ministry of Railways, State Government and Ministry of Road, Transport and Highway as part of their discussions of the Draft CCMP and in preparing for the aforementioned MoU.

At the practical level, through the meetings with stakeholders, the Mission observed the following challenges:

- The multitude of stakeholders, besides the Ministry of Railways, is a challenge for the implementation of the CCMP. The major issue is how to coordinate activities and share a clear understanding of responsibilities among them, in particular for the buffer zone to be established. The role and purpose of establishing the buffer zone should be understood by all stakeholders and major new operations should be discussed within an official consultation framework to guarantee that such operations do not harm the OUV of the property. The process should be agreed upon via the MoU with each stakeholder.
- Concerning **legislative recognition** of the component sites of the World Heritage property, as suggested by the draft CCMP, several options could be explored to determine the most workable solution, such as Model Heritage Regulations adapted for the DHR property and its buffer zone. Such tools should include provisions for mandatory Environmental Impact Assessment or Heritage Impact Assessments for any major public works or land developments which may impact the attributes of OUV of the property.

Cooperation with UNESCO Office in New Delhi for the CCMP: There has been active cooperation between the State Party and the UNESCO project team, demonstrated by the sharing of archival and documentation materials, including drawings of coach, locomotive, manuals of coach, wagon, locomotives, drawing of buildings and sketches of land belonging to stations. Seven review meetings with Indian Railways officials have been held since 2016, of which the most recent one, organised in September 2019, resulted in discussing the pre-final draft of the CCMP.

Governance and management structure, planning capacity including consultation mechanism within the management authority and among all stakeholders

As already mentioned above, the major challenge for the sound management of the property relies on stronger governance, built on a deep understanding of the values of the World Heritage property among important stakeholders. To achieve this, it is of utmost importance to establish workable and practical mechanisms for consultation and participative decision-making when it comes to the management of the property. During the Mission, the mission team encountered almost all major stakeholders and exchanged views on how to establish a working relationship built on trust.

Such a formal coordination mechanism, equally important in operationalizing the CCMP, is aimed at allowing regular and official participation of all stakeholders: the Ministry of Railways, concerned provincial authorities (West Bengal government concerning the DHR for instance), the Ministry of Road Transport and Highways, Ministry of Forest, the Archaeological Survey of India (ASI) as the World Heritage focal point, along with district authorities and civil society working in the areas concerned. The National Commission (Ministry of Human Resources) could take part in the mechanism as an observer. The Chairs of such a consultative body could be rotational, depending on the issues and areas to be discussed. For instance, if a coordination meeting is convened for the DHR, the Ministry of Railways and West Bengal government may become co-chairs, as the

most important representatives having jurisdictional power over the areas concerned (inscribed area and buffer zone, respectively).

It is also important to stress the need to have professional, in-house expertise to address the conservation issues of all three components of the World Heritage property, both from a legal and a technical viewpoint. The daily operation of the railways seem to be guaranteed by dedicated staff and existing structures both in DHR and KSR; however, conservational aspects such as emergency preparedness (e.g. the recent vandalism against the station buildings of DHR), the maintenance of historical buildings and their restoration and valorisation, as well as the likely need for occasional modernisation of equipment inside the buildings, require professional heritage advice. Such professional advice should also inform the discussions and decision-making processes of the above-mentioned formal consultative group. It is noted as a positive contribution that a heritage conservation unit has been identified at NFR zonal level, and a monitoring heritage unit has been established at Railway Board level. However, there is no professional heritage conservation expertise engaged in these units at the line-management decision-making level, reliance being instead placed on contract heritage expertise that might be engaged on a project-by-project basis.

In the past, it was reported that several miscommunications had resulted in no-reply or undelivered replies from the management entity to a request from the Secretariat of the World Heritage Convention. When it comes to the institutional communication with the Secretariat, all stakeholders must understand the coordination role of the National Commission (Ministry of Human Resource Development, Department of Higher Education), which is the State Party's official Focal Point for issues relating to UNESCO. The National Commission handles all communications coming from and going to the WHC Secretariat through the Permanent Delegation of India to UNESCO in Paris, including communication with the direct management entity of the property, the Ministry of Railways. As the World Heritage property is engineering heritage and, as such, is distinct from the majority of World Heritage sites in India, which are largely archaeological heritage, it may require a special sub-commission within, or a tailored response from, the National Commission.

The draft CCMP indicates stakeholder agreement on the need for formal legislative recognition of the heritage values of the DHR and buffer zone. Various mechanisms exist to achieve this aim, including that outlined in the CCMP, and the most appropriate protective legislative regime should be arrived at through discussion between the Indian Railways, State of West Bengal and other relevant stakeholders.

Last but not least, the OUV of the property identifies the important role of the Railways as a transportation system in contributing to the historical evolution of societies and hence identifies the human settlement and developments as attributes supporting its OUV. The property is quite unusual in this regard. Bearing this in mind, the local inhabitants have a direct relationship with the railway and this community interest should be continued and promoted. Decision-making, while framed in the context of the legislative and administrative requirements, needs also to embrace the interests and aspiration of the citizens and civil society as beneficiaries, contributors and guardians of the property. Effective communication and dialogue with local communities on the management and their role in sustaining OUV of the property, through participative activities, could contribute to the maintenance of trust and the sharing of common goals. Ecological considerations also should be included in the operation of the railways, especially with regards the forest lands it passes through, and the environmental sustainability of its management and operational practices.

Stronger governance is therefore based on stakeholders' thorough commitment in safeguarding the property, formal coordination mechanisms involving consultation and participative decision making, including citizen and civil society input; in enhancing in-house conservation expertise and

advice; and in ensuring clear lines of communication between UNESCO, the National Commission and the property management mechanism. The long-term conservation of the World Heritage values would be greatly enhanced by the strengthening of governance mechanisms in this way.

DHR boundary and buffer zones

The elaboration of the boundary and buffer zone for DHR has been pursued within the CCMP drafting process. The options of restricting the boundary to Indian Railways (IR) land, or including the Hill Cart Road land, within which the railway largely runs and which is owned by the Ministry of Road Transport and Highways, as recommended in the draft CCMP, have yet to be settled. Limiting the boundary to IR land and defining the management of the road as part of the buffer zone is complicated by the joint use of infrastructures such as culverts, bridges and retaining walls by both the road and the railway, and the fact that the railway was built as an adjunct to the Hill Cart Road and follows its alignment over much of the route, crossing it about 200 times. Defining the OUV of the Railway as separate from the roadway of which it is an integral part would be difficult. The adoption of the railway land as the boundary, however, seems to best match the intention of the boundary description in the 1999 listing of the DHR. The decision on these options must include a commitment by the Indian Railways, the Ministry of Roads and Highways, and the Government of West Bengal (which maintains the road for MoRTH) to recognise and implement the final boundary definition and related management arrangements, a process began in 2019 as part of the CCMP process but is not yet concluded.

Mapping of the property boundary is impossible until an agreement on its extent is reached. The definition of the IR property boundary has been complicated by some difficulty in documenting the land owned by IR and matching this with the GIS survey carried out as part of the CCMP. This has not yet been resolved, but IR has indicated that it is liaising with the Revenue Department, which controls the definition of land ownership to ascertain the extent of IR property; this would allow information to be combined with the CCMP mapping process, resulting in a boundary map. This process will take a little time, but a request for an update on progress in one year would be appropriate. The Mission was not told if the Ministry of Road Transport and Highways knows or has also sought clarification of its property holdings, which would be necessary if the option of including both Hill Cart Road and the railway land within the Property was pursued.

The World Heritage Committee has recommended the creation of a buffer zone for the DHR at the time of inscription in 1999 and again in 2019. The draft CCMP has carried out a landscape characterization survey, based on HUL principles, to inform the development of a buffer zone. A draft boundary has been developed, and the draft CCMP recommends the development of a Memorandum of Understanding between the Northeast Frontier Railways and the various public bodies responsible for management in the buffer zone (Darjeeling Municipality; Ghorkaland Territorial Authority; Kurseong Municipality; Land and Revenue Department; Ministry of Forest; Siliguri Development Authority; Siliguri Municipal Corporation; Ministry of Road Transport and Highway). The Mission raised this issue with several stakeholders, and the need for a fully collaborative process in developing the MoU and its implementation was stressed, as many of the management issues involved were outside the competencies of the Indian Railways.

It is recommended that the Indian Government be asked to report in one year on the progress of boundary and buffer zone definition.

Risk preparedness

The draft CCMP for DHR includes a Disaster Risk Management Manual and a Disaster Risk Mitigation Plan to guide **risk mitigation and post-disaster responses**.

The Disaster Risk Mitigation Plan deals with the specific issues that most directly threaten the OUV, and on the means of mitigating those threats:

- (1) establishing a Disaster Management Unit within the DHR with the necessary actions to make it effective;
- (2) Fire Mitigation;
- (3) Earthquake Mitigation;
- (4) Sinking zones and landslide mitigation;
- (5) Cyclone and flash flood mitigation;
- (6) Riot, arson and theft management

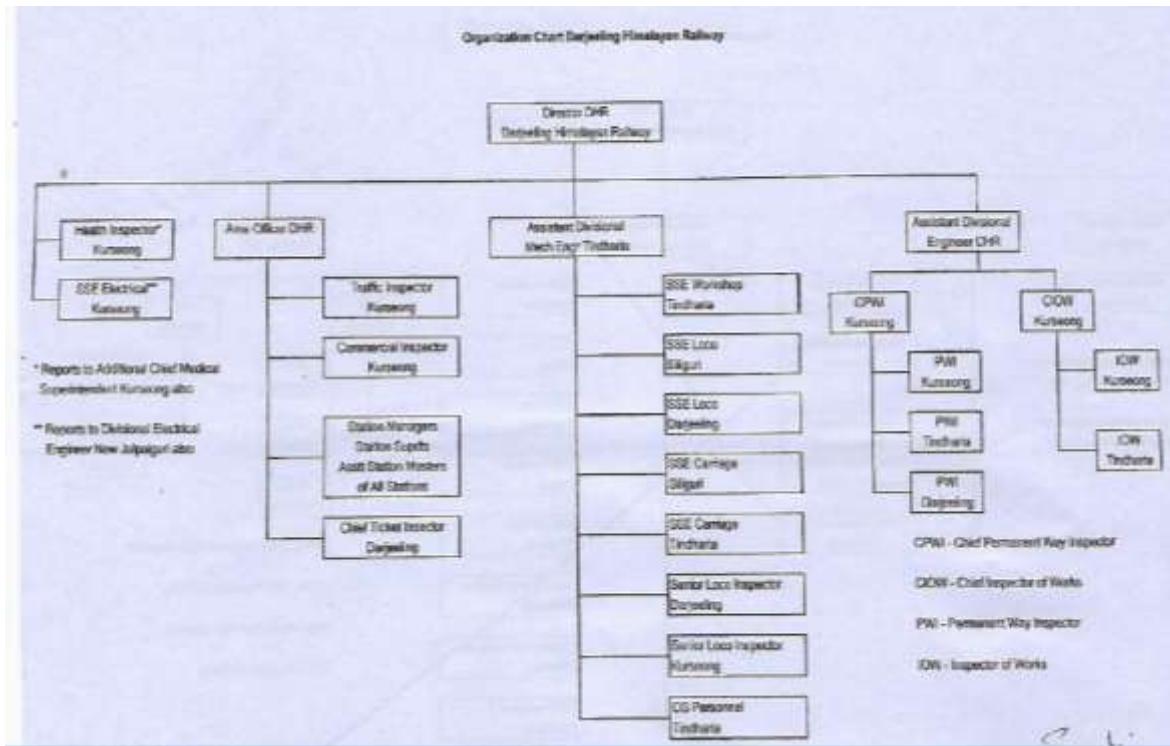
The Mission considers this an appropriate mechanism for risk preparedness and responses to disasters, but this can only be formally implemented when the draft CCMP of which it is a part is agreed and implemented. This reinforces the urgent need for adoption and implementation of the CCMP.

3.1.2 Staff and Capacities

Human and financial resources available to support the conservation of the property, including the self-benefiting FiT project

Concerning **human resources**, the Mission noted that most of the key positions for DHR within IR have been changed recently (spring 2019), and that, arising from these changes, there has been a renewed interest in improving the conservation of the property. The Mission was also alerted to the potential problem that the regular cycling of staff poses for the retention of knowledge of the DHR operations, heritage and management, and the retention of corporate knowledge. It stresses the importance of the establishment of a heritage unit with ongoing involvement with the DHR management, and of the consultative processes to be established to implement the MoU, which might help provide continuity.

For DHR, the basic structure of Divisional Railway Management at Katihar is as follows:



For heritage issues, the Zonal Heritage Committee of NFR exists and Additional General Manager acts as the Committee's chairman and other members of the Committee include Principal Chief Mechanical Engineer as Chief Heritage Officer, Chief General Engineer, Chief Workshop Engineer, Deputy General manager. This arrangement appears appropriate in terms of IR's management structure, but the importance of preserving World Heritage OUV suggests that direct access to in-house heritage management and conservation expertise and advice within the Committee structure is a critically needed, as outlined below.

The Railway has also a Board, and heritage matters are being monitored by Executive Director of Heritage and Secretary to the Railway Board. While this is an important development and appears to be having some effect in improving the understanding of heritage issues within the management, its impact would be greatly enhanced by the embedding of heritage expertise within the line-management at DHR and KSR level.

The Mission observed that IR staff on both the DHR and KSR were knowledgeable about the railway's history and are fully committed to the protection of the heritage of the railways from that perspective. The staff, however, did not bring expertise in heritage conservation and management to the management planning and decision-making processes. The WHC has asked in 1999 and 2019 for the creation of a management unit within IR with expertise in heritage matters as well as formal railway management skills. The observation of the Mission is that IR, at its DHR and KSR sites and possibly at the Nilgiri Railway as well, needs better integration of heritage skills into the management planning and decision-making processes for the railways, particularly concerning the conservation and management of the stations, associated structures, guest houses and worker housing which include elements of engineering and industrial heritage. The establishment of a small unit with input on heritage issues within the Railways Board during 2019 is to be commended, but this unit does not appear to have line functions relating to planning and decision making on the DHR or KSR and does not fully satisfy the fulfilment of the Committee's requests.

The abovementioned self-benefitting Funds-in-Trust at UNESCO, established for the production of the CCMP, provided a variety of training opportunities to the staff of the Railways, primarily through their involvement in the process of establishing the boundary and buffer zone, e.g through nine consultation meetings held since 2016. Most recently, a technical workshop related to CCMP draft manuals and a stakeholders workshop was held on 19-22 November 2018, and a stakeholder meeting for the buffer zone of the DHR was held on 25-26 February 2019 at Darjeeling, attended by representative of stakeholders including Ministry of Road Transport and Highways (NH & PWD), Gorkhaland Territorial Administration (GTA), West Bengal Heritage Commission, District Magistrate, Darjeeling, the State Forest Department and Indian Railways. A mechanical workshop was organized from 11 to 13 May 2019 and an Exchange Workshop on 14 and 15 May 2019. Although there is no statistical information showing the number of staff involved and the skills gained, this process certainly had a positive impact on the staff of the DHR and the general understanding of World Heritage management and associated requirements.

UNESCO produced the following manuals under the project cooperation for the use of the Railways authorities, and some of them were effectively used for repairing deteriorated station buildings that the Mission inspected:

- Draft *Manual for Architectural conservation* in September 2018,
- *Disaster Preparedness Manual* in September 2018,
- Draft *Manual for Rolling Stock* in February 2019,
- Draft *Track Maintenance Manual* (yet to be provided).

The allocation of staff for the DHR is as follows, showing the majority of the staff is working in the daily operation and repair/maintenance of the railway.

| Department | Deployment |
|-------------|------------|
| Mechanical | 277 |
| Electrical | 31 |
| Engineering | 89 |
| Traffic | 37 |
| Medical | 35 |
| Total | 472 |

Concerning **financial resources**, funds are provided by Government of India and disbursed by the Northeast Frontier Railway Headquarter to Katihar Division. The allocations and expenditure of the DHR have been increasing constantly between 2017/2018 and 2018/2019 by around 15 % (INR 193,666,000 to INR 236,160,000), and the repair and maintenance costs have seen the most significant increase over the last three years. It is noted that large-scale works such as the re-laying of sleepers may account for much of this increase. Although no information was provided on how much of the total resources is allocated to training and staff skills capacity building, it is important that the budget explicitly includes this as a programme, especially in light of the policy of rotation of staff through regions within IR at regular intervals. Awareness raising and skills in heritage management would benefit not only the DHR but also other areas of IR's huge railway network as staff are transferred. As part of this training and capacity building the opportunities for staff to benefit from supplementary training and exposure to an international environment, notably

to acquire knowledge of similar industrial heritage management and planning approaches and processes, should be sought out and implemented.

Mission Statement

The Mission Team has not received any formal mission statement for DHR. It would be good to establish one, according to the ideas demonstrated by the draft CCMP, and to share it with the stakeholders, as an attempt to include all concerned in the achievement of long-term goals, with high technical and ethical standards for professional performance. The Mission Statement could be a succinct statement that commits the property management and staff to clear objectives in the operation and safeguarding of the property. An appropriate mission statement for the DHR might include the commitment to: provide an effective and efficient railway service for the benefit of the local and international users; to protect, maintain and preserve attributes of OUV of the property; enhance the presentation of World Heritage value; develop and maintain the appropriate and adequate conservation and management skills of DHR staff to operate, maintain and conserve the heritage values of the DHR; and to involve all key stakeholders, including civil society, in the management planning and decision making processes for the property and its buffer zone.

Capacity Building

The Mission observed the need for capacity building concerning heritage awareness and skills within IR and as part of the wider stakeholder framework for the proposed management of the DHR component of the World Heritage property and its buffer zone. In particular, heritage expertise in building conservation is a notable absence in IR management. Recent post-fire reconstruction of two railway stations was substantially guided by expert input organised by the UNESCO Office in New Delhi and by the *Built Heritage (Architectural) Conservation Manual* developed as part of the CCMP process. The scale of the building conservation needs observed both at the DHR and the KSR, however, suggests that a combination of in-house expertise and reliable access to external built heritage advice is urgently needed.

The draft CCMP identifies a range of areas where capacity building would benefit the management of the DHR and other component parts of the World Heritage property and would fulfil the World Heritage Committee's Capacity Development Strategy. The draft CCMP recognises that this entails an extensive programme of work, which would require the acquisition of new skills and resources. The draft CCMP recommends the involvement of Indian bodies which specialize in training and skills development, and the considerable benefits of international exchange programmes with other similar hill railways. The Mission believes that the adoption and implementation of the CCMP policy and action strategies for capacity building are necessary for the ongoing protection, conservation and presentation of the attributes of the DHR that contribute to the OUV of the property.

3.2 Physical State of the Property

3.2.1 State of the Property's Major Attributes

Railway functions and maintenance (DHR & KSR)

The DHR and the KSR are operational narrow-gauge railways. The physical state of conservation of the railway functions is fair to good, considering that the railways are over 100 years old and have been in continuous operation over that time.

The DHR operates with both steam and diesel locomotives, while the KSR is almost entirely diesel. Indian Railways operates overwhelmingly with diesel locomotives and steam operations are

limited to the DHR, with demonstrational use of steam at KSR and a steam museum. Hence, the retention of skills and engineering capacity in steam locomotive maintenance is critical to the continued operation of the DHR as an operational steam railway. This continued operation is central to the preservation of the OUV of the DHR and to the safeguarding of a range of intangible heritage values associated with the operation of live steam and the systems of rail working and engine maintenance that support it.

The draft CCMP includes three manuals to assist DHR in the conservation of the railway's locomotives, carriages, wagons and structures. These manuals are:

- *Built Heritage (Architectural) Conservation Manual* (three volumes)
- *'B' Class Steam Locomotive Operating and Maintenance Manual Draft*
- *Carriage and Wagon Operating and Maintenance Manual Draft*

A manual for track maintenance is also being finalised. The entire track of the DHR is in the process of being re-laid on concrete sleepers (replacing steel sleepers). This process will resolve, in the short term at least, any local track maintenance issues that have been reported in recent years.



Close association of railway and Hill Cart Road © M. Pearson 2019



Relaying tracks on concrete sleepers, DHR © M. Pearson 2019

Indian Railways has adopted an *Indian Railways' Heritage Charter* (IRHC) in 2018. This charter includes the following article:

Article 9: *In view of the steam locomotive being the starting point of railways worldwide and the most visible heritage asset, its preservation and conservation needs special attention.*

Railways should ensure that the few steam locomotives that are still available in the country be preserved, preferably in working condition or in full steam. Special attention should also be paid to retaining and maintaining operational and maintenance skills as well as equipment for the steam locomotive wherever available. Sufficient staff needs to be engaged as trainees at locations like the Heritage Steam Shed at Rewari to learn and imbibe skills with regard to the steam locomotive.

The railway workshops at Tindharia are a key component of the DHR and were inspected by the Mission (on a non-working day). The operations, as outlined to the mission, appear appropriate to locomotive and carriage maintenance, with a wide range of relevant equipment; however, the Mission team lacked the engineering background to judge the adequacy of the infrastructure or the skills and experience of the workshop team to maintain the DHR engines and rolling stock in the future. NFR has indicated that it has completed the overhaul and maintenance of 39 coaches and seven locomotives since 2018 and that a rolling schedule of overhauls is now in place.



Railway workshops at Tindharia
© UNESCO/Nao Hayashi2019



Belt-driven equipment, Tindharia
© M. Pearson 2019

The draft CCMP has appropriate policies that address the implementation of the *Indian Railways Heritage Charter* in the context of the DHR.

The Mission observed that critical relationship between preserving an ongoing steam railway operation and the capacity of the Tindharia workshops to maintain the engines and rolling stock is of such importance that it recommends that an independent assessment of the short, mid and long-term needs for continuing steam operation, and the capacity of the Tindharia workshop (and in the case of diesel operations off-site IR maintenance capacity) to adequately support those needs, be undertaken. This might include, but not be limited to: an assessment of the adequacy of in-house skills and staff training now and into the future; the provision of adequate engineering capacity to maintain the engine and rolling stock (eg machinery availability, engine component replication on- or off-site, stocktaking of on-hand components for rapid maintenance, maintenance

scheduling and staff adequacy; and the capacity of the Tindharia workshop site to continue to provide ongoing maintenance given recent reductions in the site land area (due to landslides), and any improvements that might be needed.)

Station buildings

A superficial observation of the various station buildings on the DHR suggests that they are in fair condition. Two stations at Sonada and Gayabari were burnt during civil unrests in 2017 and have been reconstructed/restored, with architectural heritage guidance provided through the UNESCO Office in New Delhi and by applying the *Built Heritage (Architectural) Conservation Manual* developed as part of the CCMP process. It is clear, however, that each of the station buildings and associated structures along the line requires additional guidance to ensure that ongoing maintenance, repair, conservation or adaptation for new uses is consistent with the protection of those attributes that reflect the OUV of the property. This guidance might be provided in the form of Heritage Impact Assessments (HIA), specific conservation guidelines for key buildings, and access to professional heritage advice when works are being planned and carried out. The adoption and implementation of the draft CCMP would address the main issue of ensuring professional heritage expertise in the conservation of station buildings.

The large Siliguri Town station, which is currently vacant and in deteriorating condition, would appear to have potential for adaptive re-use; a suggestion that DHR staff have undertaken to investigate.



Siliguri Town station DHR
© UNESCO / N. Hayashi 2019



Ghum Station, DHR © M. Pearson 2019

During the Mission's inspection of the Kalka Shimla Railway, it was noted that the modernisation of terminus stations had unfortunate impacts on the heritage values of those buildings and that one major building at least, the Crow Borough Guest House in Darjeeling, was in urgent need of expert heritage conservation input. The comments made earlier about capacity building and those on station buildings apply equally to the KSR and may also apply to the Nilgiri Railway, which was not inspected by the Mission.



Modernised Shimla Station, KSR
© M. Pearson 2019



Crow Borough Guest House, Shimla
© M. Pearson 2019

The 2018 *Indian Railways' Heritage Charter* fully comprehends the need for specialised skills and approaches to achieving the conservation of heritage structures, and the adoption and implementation of the CCMP would operationalise that policy commitment by Indian Railways.

Architectural Elements

Other buildings include railway worker accommodation, and station support buildings such as loco sheds, go-downs and guest houses. The comments for station buildings above also apply to these other architectural forms. The draft CCMP includes policies relating to the adaptive re-use of housing redundant to railway needs, which should be implemented.



Loco shed, Kurseong © M. Pearson 2019



Computer Training Centre, Kurseong © M. Pearson
2019

Elements of engineering and industrial heritage

The DHR and KSR incorporate several important industrial and engineering heritage components. The railways themselves, together with their loops, zig-zag returns (DHR) and the bridges, aqueducts and tunnels (KSR), are of OUV in part because of their engineering innovation, and are in good condition and constantly maintained.

The Tindharia workshop on the DHR is a major industrial heritage asset and retains unusual features, such as overhead-belt driven equipment, operating in tandem with electric-powered equipment. It is in good state of conservation, but as mentioned above, the Mission team lacked the engineering background to judge the adequacy of the infrastructure or the skills mix and experience of the workshop team and recommends an independent review of this, given the importance of the workshops to the ongoing operations of the railway. NFR has indicated that a rolling schedule of overhauls is now in place. The printing works at Kurseong, which were responsible for the production of the printed materials and tickets used on the DHR, have unfortunately been broken up and very largely disposed of in the last few years, and the Mission was shown only a small number of surviving machines that do not represent the original range of printing activities. While DHR's intention to create a museum featuring the remaining equipment and the story of railway printing is to be encouraged, the industrial heritage value of the original printing shop appears to have been already been lost.



Maintenance of locomotives at Darjeeling loco shed
© M. Pearson 2019



Signal box at Barog, typical of many along the DHR
© M. Pearson 2019

Encroachment and waste management

Encroachment by new development near the railway has been the subject of complaints regarding the DHR. However, as already mentioned above, the Mission had some difficulty in determining where encroachment was occurring, given the uncertainty about the boundary of railway land, and the intertwining of railway land and the Hill Cart Road. The NFR states that it has dealt with encroachments on railway land as they arise, and the Mission was shown some cases of encroachment at Kurseong and other locations which have been acted upon by DHR over the last three years, with several evictions from railway buildings and removal of illegal structures from

railway lands. The potential for encroachment would appear much greater in the lowland section of the railway between Sukna and New Jalpaiguri, especially in the urban areas of New Jalpaiguri and Siliguri, where villages of squatters appear to occupy much mainline railway property as well, but the Mission did not inspect these sections other than at Siliguri Town Station.



Local people seen on the railway © UNESCO / N. Hayashi 2019

Over the majority of the DHR line from Sukna to Darjeeling, encroachment was not identified as a major issue, but DHR has taken action in several cases where it has occurred. The KSR has very little encroachment, as it runs predominantly through a non-urban area. Development that might have a negative impact on OUV, but is located adjacent to but outside NFR land, would need to be resolved through the proposed buffer zone management mechanisms.

Some waste dumping can be seen in some sections of the DHR, but it is far less obvious than in other areas of railway land in India, especially in urban landscapes. It is noted that NFR has completed a clean-up drive to address waste accumulation and that follow-up clean-ups are planned with the cooperation of local authorities and communities.



Litter seen on the railway DHR © UNESCO / N. Hayashi 2019

Elements raised by the 2018 report for DHR

The mission inspected some of the sites related to the issues raised in the 2018 report from the UNESCO New Delhi Office, and observed the followings:

Issues relating to the deterioration of the condition of the attributes of OUV:

Waste management issues

Mission comments: On some parts of the rails, solid waste was dumped, but it was not perceived as a major encroachment. However, it is desirable to establish rules and regulations to avoid such a practice within and around the World Heritage property, not only to maintain waste-free conditions for the local population and visitors, but also the safe and secure operation of the railway. Noting that the general sanitation and waste management are an important concern for the country, it should be discussed with provincial and local district authorities and awareness should be raised among local inhabitants to encourage litter reduction and clean-up activities. Concerning the massive dumping place observed around the DHR (and IR mainline) near Siliguri Town, while its clean-up and prevention are desirable, it is closely related to the larger problem of the spread of illegal settlement on railway land and should be part of IR's approaches to that larger problem.

Many attributes have lost important structural or decorative components

Mission comment: The Mission did not observe a substantial loss of structural or decorative elements, though there was no baseline record on which to base this observation. This problem was more obvious on the KSR, with recent modernization of the Kalka and Shimla stations.

Serious encroachment from illegal construction

Mission comment: The examples of encroachment observed by the Mission were being dealt with by DHR through formal notification and removal action. Serious encroachment from illegal

construction was not observed, though the absence of a clear indication of the boundary of IR land made it difficult to provide an accurate assessment.

Insufficient maintenance of trains and tracks

Mission comment: The Mission team lacked the engineering background to judge the adequacy of the infrastructure or the skills mix and experience of the workshop team, and recommends an independent review of this, given the importance of the workshops to the ongoing operations of the railway. The Mission notes, however, that a schedule of regular maintenance for the 13 steam locomotives appears to be in place. The whole of the track is being re-laid on concrete sleepers during 2019-20, and this process will resolve, at least in the short term, any major track maintenance problems. The sleeper replacement programme does not appear to raise heritage issues, as the sleepers have been periodically replaced over the lifetime of the railway, and have changed from timber to steel and progressively to concrete. The Mission team observed many track maintenance crews working on the KSR during the inspection.

Loss of fabric at station buildings that are seriously degrading since inscription, largely due to ill-advised 'modernisation' efforts and lack of maintenance. Damage to Sonada and Gayabari stations in 2017 and subsequent restoration.

Mission comment: The Mission did not observe a substantial loss of fabric, though there was no baseline record on which to base this observation. The only substantial modernization of stations observed was on the KSR at the two terminus stations. The Sonada and Gayabari stations have been reconstructed or restored as appropriate, with the assistance supplied through UNESCO Office in New Delhi and with the use of the *Built Heritage (Architecture) Conservation Manual* developed as part of the CCMP process. The stations were re-opened in late 2019. In the case of railway buildings, conservation actions should encompass legitimate changes dictated by operational needs over time that contribute to rather than diminish the OUV of those attributes



Restored station and godown at Gayabari
© M. Pearson 2019



Restored station at Sonada © M. Pearson 2019

Original forest and tea garden settings now replaced with illegally constructed houses and shops, within the 20 m corridor

Mission comment: With the lack of baseline records available to the Mission, it was not possible to recognize the reported illegal constructions. Reference to the '20m corridor' was not meaningful on the ground for the Mission, as the position of the property boundary is not marked, and the plans of IR /WH property are not yet available. The development of rural production and settlements enabled by the railway, and part of its OUV, implied many changes in the immediate

setting of the railway over time. Establishing the baseline for monitoring and conservation will have to take this evolution into account, which continues after inscription, while ensuring that new development does not entail negative encroachment on the OUV.

Landscape loss within the proposed buffer zone

Mission comments: The landscape visible from the railway has been altered substantially over the life of the DHR. In part, this is a result of the opening up of the land along the route of the line for human settlement and landscape utilisation – an aspect of the DHR that is identified as part of its OUV. Settlements and townships have grown up, in some places certainly encroaching on what was the original railway/Hill Cart Road easement land, but these are now seen as part of the developmental history facilitated by the railway itself – an attribute of the OUV. In some areas, such as the Agony Point Loop and others, vegetation has changed the visibility of the railway alignment, but natural revegetation in part simply replaced vegetation removed by the railway's construction. A guiding objective in the management of the DHR into the future should be to avoid or limit any recent, current or future development ('encroachment') that impinges rail or road operations (as the DHR is largely co-located on the Hill Cart Road), or that threatens to negatively surrounding environments which form part of OUV or its attributes. Landscapes, such as tea gardens, agricultural domains and old forests, which form an integral part of the property's surroundings and the large part of it associated with the socio-economic values that the property has helped to create and interacted with should be given utmost importance for its sound management. Achieving this objective would be a function of both the managers of the DHR and the cooperative management arrangement or authority established through the MoU process for the management of the buffer zone and if necessary, conduct thorough research to identify limits of acceptable change. This body could establish criteria for the prevention or removal of developments that encroached on the property, or the character and visual accessibility of the surrounding landscape. It might also decide to remove or alter earlier developments (through appropriate legal mechanisms) to re-establish important viewpoints into the landscape. The involvement of civil society through local representation on the buffer zone management body would be critical in implementing the body's decisions and achieving the objective of the protection of OUV from inappropriate developments in the buffer zone.



Building under constructions in the proposed buffer zone viewed from the DHR train window © UNESCO / N. Hayashi 2019



View of the mountain peaks seen across Darjeeling from the DHR train © UNESCO / N. Hayashi 2019

Engines are using low-grade coal, damaging the engines

Mission comment. The Mission team did not have the expertise to judge the quality of coal, and the DHR staff reported that appropriate A-grade steaming coal was being used. Increased engine wear was not reported to the Mission by engineering staff.

Issues of management structure and boundaries:

No appropriate management/conservation structure

Mission comment. The absence of a management unit or structure for both the DHR and KSR with appropriate heritage conservation and management skills has been reported on elsewhere in this report. The absence of heritage expertise in the decision-making and management processes is a major issue for the two railways inspected (DHR and KSR) and is likely to also be an issue for Nilgiri. The draft CCMP recommends several mechanisms to engage targeted heritage expertise within the property's three railways, and specifically for the DHR. The completion, adoption and implementation of the CCMP would address the current gaps in the management structure.

No clear definition of boundaries or buffer zone

Mission comment. The process of defining both the property boundaries and the buffer zone are outlined above. The completion, adoption and implementation of the CCMP would address the boundary and buffer zone issues.

3.3 Interpretation

The DHR attracts a substantial number of visitors. In 2017, it received 64,030 persons and in 2018, 108,940 persons visited the property, representing a nearly 70% increase year to year. While a detailed breakdown was not available, it would appear that the large majority of visitors are domestic. The DHR also constitutes daily life and source of pride and economic welfare for

local populations. For this reason, it is important to provide a high-quality interpretation of the property to explain its significance and why it is important to safeguard its values with the participation of visitors and locals.

The Mission gained a good knowledge of interpretation facilities over the DHR and KSR and made the observations recorded below.

3.3.1 Site Museums, Display, Documentation and Archiving

For the DHR, almost every station displays a map, the explanation about the DHR and the mention of World Heritage nomination. Small museum facilities provide interesting information with historical objects, e.g. at Sukna station. The main museum of the DHR is located within the station of Ghum, which displays important small-scale models of the railways and rolling stocks along with related objects. This museum also provides sound information about World Heritage and the Outstanding Universal Value of the property, historical pictures allowing understanding the role of the Railway in the life of the region, technological challenges and scientific information. The mission appreciated its visitor-friendly atmosphere, the appropriateness of the information provided and the quality of the texts and showcases. It could also provide some information on Nilgiri and Kalka Shimla Railways, as a gesture to explain the property as a whole and as an invitation for readers to visiting two sister component sites.



Display in Sukna Station museum © UNESCO /
N. Hayashi 2019



Museum at Ghum © M. Pearson 2019

The archive centre of Kurseong station preserves an important set of documents, such as the operational rule books and manuals, letters, and pictures. The mission recommended that all these displayed objects and those in storage could be duly documented, and a programme for their copying in digital format be implemented so that the data and images could be inventoried for historical records, research, and future special exhibitions. Many of the documents and storage facilities also require immediate and periodic curatorial/conservation advice and treatment.



Archives museum, Kurseong © M. Pearson 2019



Typical interpretation board at DHR stations © M. Pearson 2019

During the mission's visit in the property, an official letter from the World Heritage Centre was issued requesting information to the State Party concerning the alleged shut-down of the Kurseong Railway Printing Press building. The mission requested a formal visit to this site and was reassured by the management authority that they were planning to convert this site into a museum, with several important printing machines remaining on-site and being conserved. Currently, a few staff members are keeping this office, as the remaining staff was redeployed to other offices of the DHR according to the representatives of DHR. Third-party comments suggest that large parts of the printing equipment and associated ephemera have been disposed of in recent years, and the Mission certainly only saw a limited set of small specialised printing presses. The NFR rejected this claim, but the Mission was not in a position to take a definitive view on the degree of survival of printing press equipment.



Printing machine in Kurseong station printing press building © M. Pearson 2019



Surviving press equipment, Kuresong Station printing press building © M. Pearson 2019

The workshop at Tindharia possesses also a museum outside and a space inside the workshop to demonstrate the work of the foundry and displays signs describing a range of workshop equipment. As the Mission visited on a non-working day, it could not form a view of the extent to which all of this equipment is still in use, but much of it appears to be.



Foundry casting molds displayed at Tindharia Workshop
© M. Pearson 2019



Sign describing equipment, Tindharia Workshop
© M. Pearson 2019

The information concerning these small interpretation facilities and the main museum does not seem available on the DHR website. It is recommended that the DHR website be expanded to include a section on the station and workshops museums and displays, to inform visitors that these interesting places to understand the history of the DHR exist. A linked 'slide show' of the existing and future display panels would provide an interesting and informative introduction for visitors.

The mission also recommends that a rolling programme of special exhibitions or participatory activities such as photo exhibition (using 'photovoice' approach) be implemented at selected stations to provide opportunities to local inhabitants to present their experiences, links with the Railway and its place in their daily lives over the generations.

3.3.2 Dialogue and Interaction with Local Communities & Sustainable Development Policy)

A meeting with local stakeholders was organised by IR and held at Darjeeling on 7 December 2019. Participants included representatives from tour operators, hotels, the Darjeeling Railway Society, local government, forestry department, roads department, among others. This did not constitute a local community meeting or input. Given the structure of the Mission, no additional time was available for community dialogue. As recommended earlier, the establishment of a systematic and regular consultation mechanism with a variety of local interest and community groups should be implemented, and civil society needs to be represented on the advisory board established under an MoU to oversee the management of the buffer zone.



Stakeholder meeting at Darjeeling © UNESCO / N. Hayashi 2019

3.4 Living Aspects of the Property

The DHR and KSR appear to be fully embedded in the lives of the local populations – they provide transportation (especially KSR for locals), tourism income, and pass through the centres of many of the rural-urban settlements along the track as a daily part of life. The relationship of the population with the railway bears out those aspects of the OUV of the property that stress the role of the railways in opening up areas for settlement and stimulating social and economic development. A delicate balance faces the management of the DHR and its buffer zone, as the railway continues to stimulate development, which, if not carefully controlled, could erode other aspects of the OUV.



View of the Kalka Simla Railway train
© UNESCO / N. Hayashi 2019



Passengers on the Dharampur Himachal station of
Kalka Simla Railway
© UNESCO / N. Hayashi 2019

4. ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

4.1. General State of Conservation

The Mountain Railways of India, which has three components, of which only two were inspected by the Mission. The property's OUV focuses on the railways as outstanding technological ensembles representing different phases of railway development and which, as innovative transportation systems, had an impact on the social and economic development of a multicultural region, a function which continues to the present day. These are still fully operational lines, 'used in the spirit and for the purposes that are the same as those at their inception'⁷.

The form and operation of the DHR and the KSR are quite different from each other. The DHR was built following the line of the Hill Cart Road, with loops and zig-zag returns built to enable the railway to keep pace with the altitude gains of the road. It follows for much of its route the road alignment, while sometimes diverting through forested areas or paralleling the road. The current operation of the DHR is almost entirely tourist-oriented, with little or no commuter or goods use. The general state of conservation is good. A tension exists, however, between the conservation of the OUV of the 'outstanding technological ensemble' and that of the 'social and economic development of the region', which requires careful management. The adoption and implementation of the CCMP are critical in achieving this balance. The increasingly ageing engines, rolling stock and track-side infrastructure including stations and housing demands specialised conservation attention if it is to survive.

The KSR was built on a dedicated land easement, largely through forested land. It required extensive engineering solutions to maintain its steady elevation gain, these being in the form of bridges, viaducts and tunnels. The railway now operates with diesel locomotives on seven regular schedules with about 1,400 passengers per day, most of whom are local people commuting between stations along the line. One steam engine operates as a tourist attraction at Shimla on a short section of the line. The general state of conservation is good. The balance between the technological and the social and economic aspects of the OUV is not challenged to the degree it is at DHR. The main challenges are the conservation of the stations and associated buildings along the line. Some recent modernisation of Kalka and Shimla stations and the deteriorating condition of some other buildings demonstrate the urgent need for heritage expertise in the management of the railway.

4.2 Integrity and Authenticity

Both the DHR and the KSR retain integrity, in terms of function and use, of the attributes that sustain OUV. In the case of the DHR in particular, the associated landscape, urban and rural, have evolved, this is foreshadowed and valued in the SOUV as a consequence of the railway's function in supporting the development of mountain communities. While the SOUV identifies the main threats to the integrity of the property as being climatic and geological risks, the Mission observes that the current threats are, in the case of the DHR, the separation of the railway from its associated landscape by uncontrolled development. Concerning authenticity, in both the DHR and the KSR, while an extensive effort has been deployed to keep original or repaired rolling stock, there is the potential for the deterioration of the built components of the railways due to poor conservation management planning, in particular for historical and associated buildings. These

⁷ Description presented as Criterion (iv) of the property.

risks are acknowledged by the managers, and the draft CCMP addresses them. The recommendations in this report reinforce the draft CCMP policies.

The SOUV recognised that the authenticity of the physical remains of the railways has to take into account the unavoidable changes in technology and operating systems, and the decay of fabric over such a long timeframe. This has resulted, for example, in the very limited use of steam on the KSR, emphasising the importance of its continued use on the DHR, where its retention can be viably maintained. This has led to a range of recommendations in the Draft CCMP and the present report to strengthen the protection and ongoing maintenance of the steam rail technology and operation. The protection of surviving railway buildings is a matter of good heritage conservation, and the draft CCMP and this report contain recommendations to strengthen conservation.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

As Asia's first industrial heritage inscribed on the World Heritage List, the World Heritage property 'Mountain Railways of India' is a rich example composed of three distinctive components, each demonstrating unique value and relevance to India's historical and contemporary social, cultural and economic development.

As a hill passenger railway, the Darjeeling Himalayan Railway, the main focus of the Mission, exemplifies ingenious engineering solutions in a steep mountainous region, providing a major attraction to many domestic and international visitors travelling in the region. Many early steam engines and other rolling stock and railway equipment continue to be maintained and remain in operation. The Kalka Shimla Railway, by contrast, is an important railway that remains a key mode of connection for mountain populations, representing an economic and social pipeline between the highlands and the town of Shimla. All three railways are still fully operational.

The efforts of the State Party have maintained these railways' functions intact, and their integrity is fairly preserved. Recently, in response to the World Heritage Committee's decision, the State Party also started investing in the establishment of the long-awaited Management Plan for DHR. It is encouraging to see that staff has taken part in this process and that an important amount of staff ensures the daily operation of the Railways and invests in it with dedication. While this represents an important step forward, the management plans for the KSR and Nilgiri Railway are out of date and do not comply with the current expectations of a professional World Heritage conservation and management plan.

Importantly, the management of the component sites as a World Heritage property requires enhanced and concerted efforts. Several areas require substantial improvement to achieve effective and lasting site management and preservation. Enhanced governance and informed decision making for management are necessary to safeguard the OUV of the property, given the involvement of numerous stakeholders and the high development pressure, as the Mission observed for the DHR. Cooperation between stakeholders should be built on the shared understanding of a common responsibility, integrated into their respective jurisdictional duties. Challenges in this regard include the adoption and effective implementation of the Management Plan, the creation of an official coordination mechanism to enable the operationalization of the Management Plan, the legislative and administrative recognition of the property's boundary and buffer zone, and the creation of an appropriate management framework.

The demarcation of the DHR property and its buffer zone would lead to clear guidance on housing and infrastructure development. Waste management and landscape preservation are major challenges that should be addressed through policies and regulations, but also with full and regular participation of local communities, who should be considered as partners in sustainable development policies. Local communities are essential guardians of the World Heritage property and the keepers of its relevance as a living, operational legacy.

Concerning the preservation of built heritage associated with the Railways, which forms part of the attributes of OUV, a major concern is the lack of specific guidelines and professional heritage expertise within the management authority. While daily operations of the Railways are ensured, there is a need to assist the State Party and management authorities in planning, evaluating, and preserving heritage components to high standards and without compromising their heritage values. Concerning the maintenance of the steam engine fleet and the rolling stock of the DHR, it is recommended a qualified specialist carry out a further review of the engineering maintenance needs and the capacity of the Tindharia workshops to satisfy those needs.

The social and cultural relevance of the DHR to the local community has the potential to be maintained and enhanced through the DHR museums and interpretative facilities. These reinforce the community's understanding of its historical connections and ongoing associations with the railway and highlight the sustained, long-lasting economic contribution of the property's inscription on the World Heritage List and could do so increasingly in the future.

The Mission has provided analysis throughout the report and compiles them here as a list of recommendations.

5.2 Recommendations

The Mission makes the recommendations below to the State Party.

Governance

For DHR

1. Provide necessary guidance and consultation for the finalization and adoption of the Comprehensive Conservation and Management Plan (CCMP) by:
 - a) officially adopting the boundary of the DHR component in conformity with Paragraphs 99-102 of the *Operational Guidelines* for the Implementation of the World Heritage Convention and, after consultation with other stakeholders, its buffer zone; reporting on the process and/or outcome to the World Heritage Convention's Secretariat with the final map(s) showing the above. This requires legal clarification of what land is to be included in the property, in consultation with the concerned stakeholders;
 - b) concluding a Memorandum of Understanding (MoU) between all major stakeholders (i.e. the Ministry of Railways (as primary coordinator), the West Bengal Government and the Ministry of Road, Transport and Highway (MoRTH) and their various administrative branches operating in areas adjacent to the DHR) to ensure a shared understanding of duties and responsibilities for the management of the property and its buffer zone. This includes decisions on policies to be applied for the sound preservation of the property and its buffer zone, especially the practical process of how to deal with existing cases of encroachment, the management of the landscape, and rules and regulations for major development and/or conservation initiatives in conformity with Paragraph 72 of the *Operational Guidelines*.
 - c) considering the suggestion of the Chief Secretary of the West Bengal Government that the CCMP could be expanded to include sustainable development objectives, and hence be renamed the Comprehensive Conservation, Management and Sustainable Development Plan (CCMSDP). This decision should be made in consultation with the Ministry of Railways, the State Government and the Ministry of Road, Transport and Highway as part of their discussions following the adoption of the CCMP and in preparation of the aforementioned MoU (see 1.b). This expansion of the role of the CCMP could be agreed as a revision of that document;
 - d) adopting and revising, as necessary, the management guidance documents attached to the CCMP, i.e.:
 - the Disaster Risk Management Manual and Disaster Risk Management Plan,
 - the Built Heritage (Architectural) Conservation Manual,

- the Carriage and Wagon Operating and Maintenance Manual,
 - the 'B' Class Steam Locomotive Operating and Maintenance Manual,
 - the Track Maintenance Manual.
2. Set up an official consultation, decision-making and implementation mechanism for stakeholders, including statutes, rules of procedure, a definition of membership and a schedule of meetings, to implement the CCMP/CCMSDP and policies related to the World Heritage property. This body should include community representatives to involve civil society in the management of the property and buffer zone, which directly impacts their daily lives.
 3. Further investigate the formal legislative recognition of the heritage values of the DHR and the other component railways, either through the application of existing legislative measures for heritage or through the development of legislation specific to the DHR and the Mountain Railways of India, or a combination of these approaches.
 4. Establish a formal mission statement for the management entities of the three component sites of the property (see section 3.1.2 for a definition and discussion of the mission statement);
 5. Ensure clear consultation and information flow between the State Party's various authorities (the National Commission for UNESCO, the Ministry of Human Resource Development, the Ministry of Railways, the Archaeological Survey of India, and the Permanent Delegation of India to UNESCO) and the World Heritage Convention's Secretariat.

For KSR

6. Establish a comprehensive, up-to-date Management Plan, notably with the elements requested by the World Heritage Committee in Decision **32 COM 8B.28** (Quebec City, 2008). The current plan is out of date and does not comply with the current expectations for the conservation and management plan for a World Heritage property.

For Nilgiri Railway

7. Establish a comprehensive, up-to-date Management Plan. The current plan is out of date and does not comply with the current expectations for the conservation and management plan of a World Heritage property.

Management

For all three component sites

8. Maintain the current capacity to sustain the mechanical and functional operation of the Railways, review additional needs as necessary to address specific requirements, and adjust resource allocation to guarantee the safe and secure operation of the Railways.
9. Strengthen the national capacity of IR for the management of heritage-related components and aspects of the property to inform the decision-making process with professional advice and expertise for heritage conservation, by:
 - a) establishing a high-profile, in-house expert position within DHR or the Zonal HFR heritage unit, or within a heritage unit integrated with the three components of the property. This heritage professional would be involved in the planning and decision-making processes for all issues relating to the management and preservation of heritage components of the property, including the maintenance and repair of the elements of engineering/industrial heritage, historical buildings, landscape and other values associated with OUV of the

property;

- b) ensuring that the abovementioned expert and the heritage unit have formal membership in the decision-making mechanisms when dealing with the preservation of heritage values of the property;
- c) exploring opportunities to provide managers and general staff working in mechanical and functional positions in the property's management entities with training and professional learning opportunities, thereby deepening their awareness and knowledge of holistic heritage management and the values to be preserved. This might be facilitated through on-site mentoring by heritage-skilled staff and through the staff's involvement in national or international training programmes and related events.

For DHR and KSR

- 10. Establish a mechanism to achieve the participation of local organisations and community groups through consultations, information sharing concerning the daily function and future outlook of the Railways, to address associated values, socio-economic and educational concerns, and environmental considerations. Activities such as participative exhibitions and awareness-raising around waste management and railway clean-up campaign would be encouraged as a means of enhancing the bond between the local communities and the Railways.

For DHR

- 11. Commission an independent assessment of the short-, mid- and long-term needs of the continuing steam operation and the capacity of the Tindharia workshop (and in the case of diesel operations off-site IR maintenance capacity) to adequately support those needs. This might include, but should not be limited to: an assessment of the adequacy of in-house skills and staff training, at present and in the future; the provision of adequate engineering capacity to maintain the engines and rolling stock (e.g. availability of machinery, replication of engine component, on- or off-site repairs, stocktaking of on-hand components for rapid maintenance, maintenance scheduling and staffing adequacy); and the capacity of the Tindharia workshop site to continue providing ongoing maintenance, given recent reductions in the site land area due to landslides; and any other improvements that may be needed.

Conservation

For all three component sites

- 12. Ensure that ongoing and future maintenance, repair, conservation or adaption for new uses of station buildings, architectural elements and associated structures is guided by specific conservation guidelines to make them consistent with the preservation of heritage attributes justifying the OUV of the property.
- 13. Establish baseline data by inventorying, recording and gathering historical plans and documents for all important elements mentioned above, to enable tracking of the conservation status over time. The development of rural settlements, which is encouraged by the railway and part of the property's OUV, has meant that many changes occurred in the immediate setting of the railway over time. The established baseline(s) for monitoring and conservation will have to take this evolution into account, which continues after inscription while ensuring that new developments do not entail any negative encroachment on the OUV. In the case of railway buildings, conservation actions should encompass legitimate changes dictated by operational needs over time that contribute to, rather than diminish, the OUV and its attributes.

14. Require Heritage Impact Assessments (HIA), prepared in accordance with the 2011 ICOMOS Guidance, for any major works or operations which may impact the property's attributes of OUV.
15. Explore the possibility of establishing guidelines for landscape description and monitoring, including research and statistics on land use and associated intangible heritage elements, such as traditional/vernacular techniques and agricultural practices, enabling monitoring over time and informing policy decision-makers on the landscape management of the buffer zone.
16. Engage in discussions with relevant stakeholders (provincial and local district authorities, civil society, local community groups) on the ways to improve waste and litter management as a means to keeping the World Heritage property clean and in decent condition for both local and outside visitors.

For DHR

17. Explore the possibility of adaptive re-use of the Siliguri Town station buildings.

For KSR

18. Ensure that substantial railway buildings, such as the Crow Borough Guest House, are investigated and their maintenance and repair supported by (a) heritage expert(s).
19. Provide the elements requested to respond to recommendations made by the Committee in 2008, namely integrating a detailed technical and architectural inventory of the stations and annexe buildings into the Management Plan, indicating their state of conservation and the planned programs of works; stepping up control of encroachment on land; and more extensive local cooperation. Conservation, upgrading or adaptation of buildings for ongoing or new uses should be based on an understanding of their heritage values and/or attributes and their conservation needs, supported by expert heritage input.

Interpretation/Education

For all component sites

20. Ensure the systematic inventorying of all moveable heritage associated with the Railways and their history, with adequate display and storage conditions.
21. Promote, through existing displays and online information, the three component sites and their respective history and values, in order to contribute to a holistic understanding of the World Heritage property.

For DHR and KSR

22. In the main museum of DHR in Ghum and the station museum of KSR, include an introduction to the other two component sites, in an attempt to raise visitor awareness and interest in the other components of the property and to obtain a wider knowledge about India's Railways.

For DHR

23. Pursue the possibility of establishing a museum dedicated to printing within the Kurseong Railway Printing Press building, and preserve remaining historical equipment and other important elements, as appropriate.
24. Document the objects on display and in storage at the Kurseong Archives Display and implement a digitisation programme for these artefacts so that the data and images could be

inventoried for historical records, research, and future special exhibitions. Many of the documents and storage facilities also require immediate and periodic curatorial/conservation advice and treatment.

25. Expand the DHR website to include a section on the stations, workshops museums and displays along the line, informing visitors about these interesting places and how they can help them understand the history of the DHR. A linked 'slideshow' of the existing and future display panels would provide an interesting and informative introduction for visitors.
26. Develop and implement a rolling programme of special exhibitions or participatory activities, such as photo exhibition (using the 'photovoice' approach) at selected stations to provide opportunities to local inhabitants to present their experiences, their links with the Railway and its place in their daily lives over the generations. This would focus attention on some of the intangible values of the DHR.

ANNEXES

| | |
|----------------|---|
| Annex 1 | Terms of Reference |
| Annex 2 | Decision 43 COM 7B.62 |
| Annex 3 | Programme of the Joint WHC/ICOMOS Reactive Monitoring Mission |
| Annex 4 | Composition of the Mission Team |
| Annex 5 | List of Persons Met |
| Annex 6 | Maps of the Property |

Annex 1: Terms of Reference of the mission

TERMS OF REFERENCE

Joint World Heritage Centre / ICOMOS Reactive Monitoring Mission Mountain Railways of India (India)

7-12 December 2019

At its 43rd session, the World Heritage Committee requested the State Party of India to invite a reactive monitoring mission to the Mountain Railways of India World Heritage property, to be conducted jointly by the World Heritage Centre and ICOMOS (Decision **43 COM 7B.62**, Annex 1). The objective of the mission is to assist the State Party in assessing the property's state of conservation, to identify priorities for action and report on these, while also formulating a set of recommendations for the State Party aimed at preventing further erosion of the property's OUV.

In particular, the mission should undertake the following:

General

1. Assess the overall state of conservation of the property, in relation to all criteria for which the property was inscribed on the World Heritage List;
2. Provide advice to the State Party in order to strengthen governance and increase capacities in planning and developing measures to cope with elements of potential threats to the property's OUV;

Governance and management

3. Review the on-going efforts of the Indian Railways to implement the Comprehensive Conservation and Management Plan (CCMP) for the property;
4. Review governance and management structure, planning capacity including an appropriate consultation mechanism within the management authority and among all stakeholders of the property;
5. Review human and financial resources available to support the conservation of the property, including the self-benefiting Funds-in-Trust project;

Reported threats to the OUV of the property

6. Review the state of major attributes of the property in particular station buildings, architectural elements, as well as elements of industrial heritage;
7. Review encroachment and waste management, as well as other reported or potential threats to the attributes and values of the property;
8. Review the findings of the 2018 mission of the UNESCO New Delhi Office to the property and any actions taken by the State Party in response;
9. Review the property's boundary and the progress to date in the establishment of the World Heritage property buffer zones along with details of proposed policy and legal instruments to improve the protection and management of the property;

Others

10. In line with paragraph 173 of the *Operational Guidelines*, assess any other relevant conservation issues that may negatively impact on the Outstanding Universal Value of the property, including the conditions of integrity and protection and management.

The State Party is requested to facilitate necessary consultations with stakeholders and field visits to key locations within the property previously mentioned by the Committee's decisions and concerned by the above elements.

In order to enable preparation for the mission, the following items should be provided to the World Heritage Centre (copied to ICOMOS) as soon as possible and no later than 2 weeks prior to the mission:

- a) Elements concerning management and planning under elaboration for the property, notably the Comprehensive Conservation and Management Plan (CCMP);
- b) All available information concerning the management authority including its organization chart, mission statement, existing legal regulations (laws, decrees and sub-decrees), details on human and financial resources;
- c) All available information about the possible on-going and future major projects (development, construction, conservation, research, tourism related projects) within the property which may have impact on the OUV of the property, such as project designs, locations, and impact assessments where available; maps allowing to compare the overall landscapes at the time of the inscription and present would be useful;
- d) All available information about visitor facilities and services, such as interpretation, educational, and outreach activities (nationals, internationals and locals);
- e) Reports of the monitoring and surveillance of the property, including time series figures (2017-2019) on:
 - i. Visitor numbers by month, tourism facility statistics, tour operators statistics;
 - ii. Cases of submitted proposals concerning constructions/facilities studied by the management authority;
 - iii. Seizures of illegal constructions/initiatives (any type)

The mission should also consult with the Indian authorities at national, provincial and municipal levels, and other relevant governmental and provincial authorities involved in the management of the property. In addition, the mission should consult with relevant stakeholders, including i) tour operators; ii) NGOs; iii) representatives of local communities.

Based on the results of the above-mentioned assessments and discussions with the State Party representatives and stakeholders, the mission will develop recommendations to the Government of India and the World Heritage Committee with the objective of providing guidance to the State Party for actions to be taken to address identified threats to the property, and to improve the conservation of its Outstanding Universal Value.

Recommendations will be provided within the mission report (see below), and not during the mission implementation.

The mission will prepare a concise report on the findings and recommendations within six weeks following the site visit, following the World Heritage Centre reactive monitoring mission report format (Annex 2).

Annex 2: Decision 43 COM 7B.62

Mountain Railways of India (India) (C 944ter)

The World Heritage Committee,

1. Having examined Document [WHC/19/43.COM/7B.Add](#),
2. Recalling Decisions [CONF 209 VIII.C.1](#), [29 COM 8B.31](#) and [32 COM 8B.28](#), adopted at its 23rd (Marrakesh, 1999), 29th (Durban, 2005) and 32nd (Quebec City, 2008) sessions respectively,
3. Regrets that the State Party did not submit the information requested by the World Heritage Centre between 2017 and 2019 regarding the lack of monitoring and general maintenance, serious encroachment by illegal construction and waste dumping along the tracks of the property;
4. Takes note of the outcomes of the 2018 mission to the property of the UNESCO Office in New Delhi and expresses concern about the erosion of attributes bearing the Outstanding Universal Value (OUV), as a result of management issues faced by the property over the 20 years since its inscription, and failure to implement the recommendations formulated by ICOMOS at the time of inscription;
5. Welcomes the initiative of Indian Railways to set up a self-benefiting Funds-in-Trust project in order to help develop a Comprehensive Conservation and Management Plan (CCMP) for the property to address longstanding issues, and requests the State Party to:
 1. Implement this plan once it has been reviewed by the World Heritage Centre and the Advisory Bodies,
 2. Establish a conservation and management unit for the property;
6. Recommends that the State Party submit to the World Heritage Committee a proposal to clarify the property's boundaries and define a buffer zone, along with details of proposed policy and legal instruments to improve the protection and management of the property;
7. Also requests the State Party to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property in order to assist the State Party in assessing the property's state of conservation, to identify priorities for action and report on these, while also formulating a set of recommendations for the State Party aimed at preventing further erosion of the property's OUV;
8. Further requests the State Party to submit to the World Heritage Centre, by **1 February 2020**, a report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 44th session in 2020.

Annex 3: Programme of the Joint WHC/ICOMOS Reactive Monitoring Mission

5/6-12-19

Arrival of experts in New Delhi

06-12-19

Transfer to Bagdogra by air and to Siliguri by road

07-12-19

Transfer from Siliguri to Sukna Station, visit to Sukna Station and Heritage Gallery

Travel by Train (Steam Traction) to Rongtong Station, Gayabari Station and Darjeeling station

Meeting with stakeholders at Hotel

08-12-19

Departure from Darjeeling by Train, visit to Ghum Station and Museum

Visit Sonada Station, Kurseong Station and Museum Gallery, Printing Press building

Visit to Tindharia Workshop and Museum

Return to Siliguri

09-12-19

Transfer from Siliguri to Bagdogra, departure for Guwahati

Meeting with General Manager of NFR and heritage officials

Departure from Guwahati to Kolkotta

10-12-19

Meeting with Chief Secretary of West Bengal

Departure from Kolkotta to New Delhi

Transfer from New Delhi to Chandigarh

11-12-19

Departure from Kalka for visits to Barog Railway Station, Simla station, heritage steam loco run from Simla station to Simla Extension, visit to Baba Bhalku Museum

Visit to Crow Borough Rest House

Return to Chandigarh

12-12-19

Return to New Delhi by train

Meeting with UNESCO New Delhi Office

Meetings with Railway Board, Ministry of Road and Highways, Ministry of Human Resource Development, Archaeological Survey of India

13-12-19 Departure of experts

Annex 4: Composition of the Mission Team

Nao Hayashi (World Heritage Centre)
Michael Pearson (ICOMOS)

Annex 5: List of Persons Met

Meeting at the Indian Railway Headquarters in Guwahati, 9 December 2019

1. Mr Sanjive Roy, General Manager, North Frontier Railway
2. Mr Kumar Sharat Chandra, PCME/NFR
3. Mr V.K.Verma, PCE/NFR
4. Mr Ramesh Kumar, CGE/NFR
5. Mr G.K.Gupta, CWE/NFR
6. Mr R.K.Verma, DRM/KIR

Meeting with Chief Secretary, West Bengal Government in Kolkata, 10 December 2019

1. Mr Rajiva Sinha- Chief Secretary, Government of West Bengal
2. Mr Naveen Prakash, Additional Chief Secretary, West Bengal
3. Mr Ramesh Kumar, CGE/NFR
4. Mr G.K.Gupta, CWE/NFR

Stakeholder meetings in New Delhi, 12 December 2019

1. Mr Amit Kumar Ghosh, IAS, Joint Secretary, Ministry of Road Transport and Highways
2. Mr Sushant Kumar Mishra, Secretary, Railway Board, Ministry of Railways
3. Mr Janhwij Sharma, Joint Director General for Conservation & World Heritage, Archaeological Survey of India
4. Ms Neeta Prasad, Joint Secretary, Ministry of Human Resource Development, Department of Higher Education (National Commission to UNESCO)

Persons met on stakeholder meeting in Darjeeling, 8 December 2019

| SN | Name (Mr/Mrs) | Designation | Contact No. | Email |
|----|----------------------|-------------|-------------|--|
| 1 | Partha Pritam Roy | | 98303-99572 | town@cindrellahotels.com |
| 2 | Deepak Gahatraj | | 83728-61629 | partharoy74@gmail.com |
| 3 | Capt. Pasang D. Lama | | 94343-68133 | pasangdikki@gmail.com |
| 4 | B.K. Ghising | | 94759-02777 | |
| 5 | Jiju Jaesper J IFS | | 99522-69404 | Jijujaesper0307@yahoo.com |
| 6 | Anup Kr. Roy | | 98003-42723 | |
| 7 | V. Srivastava | | 97176-40389 | ed.heritage.rb@gmail.com |
| 8 | Suman Pradhan | | 97331-72922 | stationdarjeeling@gmail.com |
| 9 | Guru Prasad Roy | | 90020-41209 | guru1965@gmail.com |
| 10 | Narendra Mohan | | 90020-41521 | nmohan0707@gmail.com |
| 11 | M.K. Narzary | | 90020-41950 | director.dhr@gmail.com |

| | | | | |
|----|---------------|--|-------------|--|
| 12 | Sumar Raaj | | 90020-41000 | suman.raaj74@gmail.com |
| 13 | Pankaj Yadav | | 97714-41203 | den3kirmfrly@amail.com |
| 14 | Ramesh Kumar | | 99575-50203 | cgenfrly@gmail.com |
| 15 | G.K.Gupta | | 99575-50401 | cwenfr2017@amail.com |
| 18 | Chandan Kumar | | 85850+41501 | Chandan.kumar96@yahoo.com |
| 19 | Keepa Sherpa | | 79081-87479 | Keepasherpa.cmi17@gmail.com |

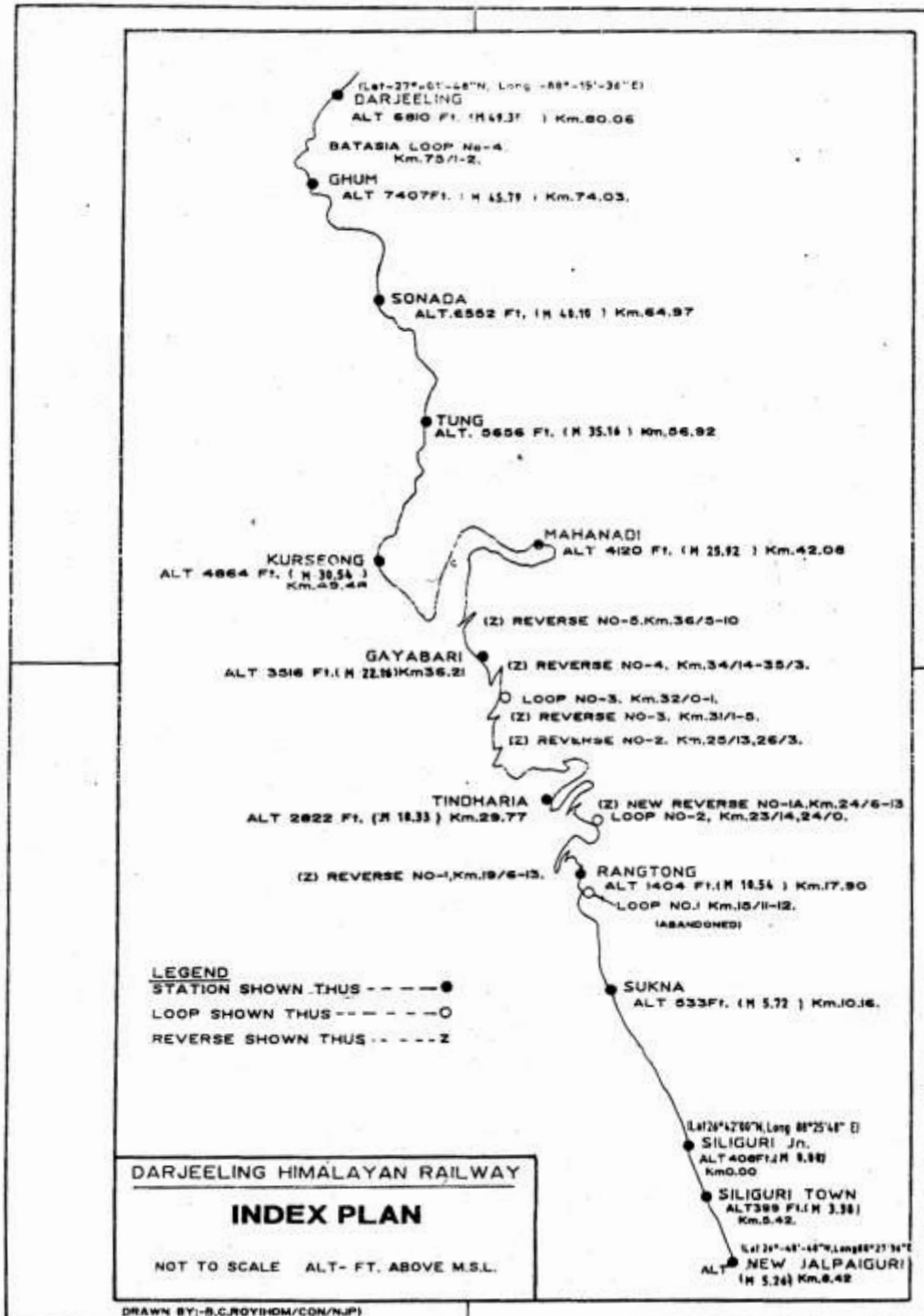
Persons met during the visit to Kalka Simla Railway, on 11 December 2019

| No. | Name | Designation | Station |
|-----|-----------------------|------------------|------------|
| 1. | Sh. Aditya Sharma | DME(C&W) | UMB |
| 2. | Sh. Rajesh Kumar | Ch.O.S/Mech | UMB |
| 3. | Sh. Harjinder Singh | SSE(C&W) | UMB |
| 4. | Sh. Gokul | SS | KLK |
| 5. | Sh. Amarjeet Sharma | SSE(C&W) | KLK |
| 6. | Sh. Hardeep Singh | SSE/P/Way | KLK |
| 7. | Sh. Jagmal Singh | Local Rail User | DMP |
| 8. | Sh. Shubh Mohan Singh | KSR Enthusiast | Chandigarh |
| 9. | Sh. Kewal Sharma | Ticket Inspector | KLK |
| 10. | Sh. Rajesh Arora | SSE/W | KLK |
| 11. | Sh. Khan | AEN | Shimla |
| 12. | Sh. Upadhya | SS | Barog |
| 13. | Sh. Dinesh Sharma | Local Contractor | Barog |
| 14. | Sh. Surender Sharma | SS | Solan |
| 15. | Sh. Prince Sethi | SS | SML |
| 16. | Sh. Krishan | Manager/BBRM | SML |
| 17. | Sh. Diwakar | SSE/W | SML |
| 18. | Sh. Rajesh | Local Resident | KLK |
| 19. | Sh. Hemant | Local Resident | SML |
| 20. | Sh. Balbir Thakur | Photographer | SML |
| 21. | Sh. Vishal Bhardwaj | Journalist | SML |
| 22. | Sh. Liyakal Ali | Local Resident | SML |
| 23. | Ms. Reshma | Electronic Media | SML |
| 24. | Sh. Sanju | Local Resident | SML |
| 25. | Sh. Sunil | Local Resident | SML |
| 26. | Sh. Som Dutt | Journalist | SML |
| 27. | Sh. Mohinder | Journalist | SML |
| 28. | Sh.Tara Chand | Print Media | SML |
| 29. | Sh. Rajiv | Print Media | SML |

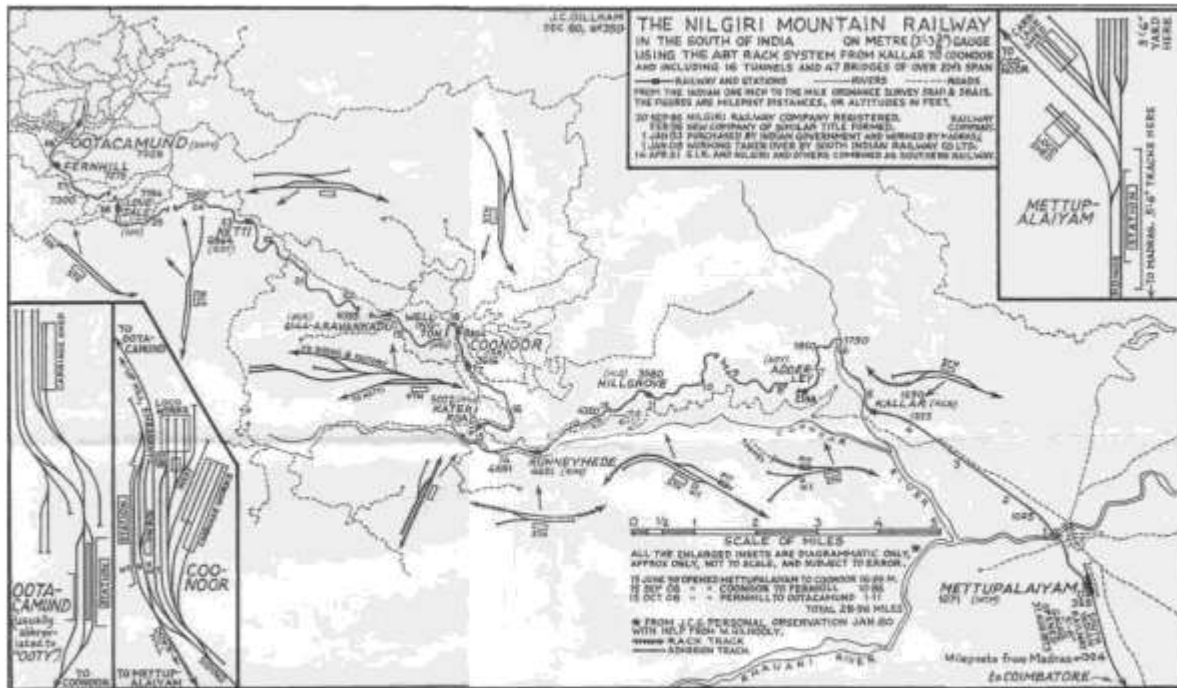
Annex 6: Maps of the Property

(Status: December 2019)

DHR



Nilgiri



Map showing the route of Nilgiri Mountain Railway

