

World Heritage Tourism Triggers Urban–Rural Reverse Migration and Social Change

Author

Buckley, Ralf, Shekari, Fatemeh, Mohammadi, Zohre, Azizi, Fatemeh, Ziaee, Mahmood

Published

2020

Journal Title

Journal of Travel Research

Version

Accepted Manuscript (AM)

DOI

<https://doi.org/10.1177/0047287519853048>

Copyright Statement

Buckley, et al., World Heritage Tourism Triggers Urban–Rural Reverse Migration and Social Change, Journal of Travel Research. Copyright 2019 The Authors. Reprinted by permission of SAGE Publications.

[“This is an Accepted Manuscript version of the following article, accepted for publication in \[Journal of Travel research\]. \[Buckley, R., Shekari, F., Mohammadi, Z., Azizi, F., & Ziaee, M. \(2020\). World Heritage Tourism Triggers Urban–Rural Reverse Migration and Social Change. Journal of Travel Research, 59\(3\), 559-572. https://doi.org/10.1177/0047287519853048\]. It is deposited under the terms of the Creative Commons Attribution-NonCommercial License \(http://creativecommons.org/licenses/by-nc/4.0/\), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited.”](#)

World Heritage tourism triggers urban-rural reverse migration and social change.

Abstract

We show that tourism to a World Heritage Area generates economic opportunities in nearby rural communities, sufficient to reverse migration to the city. To carry out this test, we used an isolated region with a simple economic structure and a newly declared WHA, and analysed economic constraints, opportunities, and decision processes at the micro scale of individual households, through qualitative analysis of interviews and on-site audits. Tourism triggered a switch from accelerating decline of rural villages, with closing schools and abandoned buildings and farmland, to accelerating recovery and reinvigoration, with new ecolodges and adventure tours employing household members and other local residents. The switch was assisted by low-interest ecotourism loans. It has also generated new economic opportunities for women specifically, and these have created much greater social freedom and self-determination, now also accepted by men.

Keywords: mobility; economic; women; water; Iran; Kerman

INTRODUCTION.

Relationships between tourism and World Heritage Areas, WHAs, are complex: different cases have different outcomes. Here we use a micro-scale qualitative methodology, including on-site audits, to test how World Heritage tourism affects local communities. We analyse social and economic changes for villages bordering the newly declared Dasht-e-Lut WHA in south-eastern Iran. These villages are geographically and economically isolated, with only two sources of livelihood: agriculture with traditional underground water supplies, and tourism to the WHA.

For this case, we show that tourism triggered a switch from accelerating decline and abandonment due to adverse agricultural factors, to accelerating economic recovery, revitalisation, and reverse migration, created by new tourism opportunities. We show that this was assisted by low-interest ecotourism loans, and has improved social freedoms and financial empowerment for women. These findings appear to be novel. They are not visible through macro-scale statistical approaches, but only at household scale.

THEORETICAL CONTEXT

Our approach links research on World Heritage tourism and urban-rural migration. The former has focussed on: role and effectiveness of WHAs as tourist attractions; management of WHAs for tourism and of tourism in WHAs; and economic, social and environmental outcomes. The latter has considered: timing, spatial geography, social and economic drivers, and outcomes. Natural and cultural heritage tourism contributes to rural economies in many countries (Lai et al. 2017; Salvatore et al. 2018).

Many World Heritage sites form valuable tourism attractions, but the economic links remain contested (Buckley 2017; Su & Lin 2014; Yang et al. 2019). There are two key questions. The first is whether listing as a WHA changes visitation and expenditure. This has been examined in Italy (Cuccia et al. 2016; Ribaud & Figini 2017), Germany (Wuepper 2017), Nepal (Baral et al. 2017), Australia (Hardiman & Burgin 2017), India (Chakravarty & Irazábal 2011), and China (Liu et al. 2017). Results are inconsistent (Yang et al. 2019). The same applies for social and environmental outcomes (Allan et al. 2017; Buckley 2017; Caust & Vecco 2017; Rasoolimanesh et al. 2017). The second is how World Heritage tourism affects economic circumstances for nearby communities. This is our focus here. There are few previous studies. In Norway, residents of Vega disagreed over economic effects of World Heritage tourism (Kaltenborn et al. 2013). In China, resettled residents at Mt Sanqingshan turned to tourism in default of traditional livelihoods (Su et al. 2016). At Kaziranga in India, some individuals reaped large economic gains, but most got nothing (Hussain et al. 2012).

Links between World Heritage listing and tourism thus differ between: Natural and Cultural WHAs; developed and developing nations; urban and rural destinations; and national and local-scale economic analyses. WHAs and tourism differ between geopolitical and linguistic blocs. Most relevant research has been in western nations with European cultural heritage, or developing nations with colonial legacies. There is less in countries with different political antecedents, such as Thailand, China, Japan, Arabic nations, Central Asia, or Iran. To develop global models of World Heritage tourism, we need to examine the precise local-scale mechanisms linking tourism and World Heritage, not only the macro-scale correlations as

previously. These local-scale links are difficult to disentangle. World Heritage listing is not the only factor affecting tourism, and tourism is not the only factor affecting WHAs.

In particular, tourism is only one component of population mobility in rural areas. Urban-rural migration and counter-migration show similar features across countries with different cultures, histories and economies. These include: USA (Brown et al. 2013), Australia (Sander & Bell 2016), Ecuador (Gascon 2015), Costa Rica (Matarrita-Cascante 2017), Chile (Sanchez 2017), Sweden (Eliasson et al. 2015), Finland (Tuulentie & Heimtun 2014), Spain (Ruiz-Ballesteros & Cáceres-Feria 2016), Russia (Trukhachev 2015), China (Liu et al. 2017) and Iran (Ghanian et al. 2014; Mahdi et al. 2014; Azimi and Azetisyan 2017). Rural-urban migration is driven by loss of rural income and the search for employment and education (Haeffner et al. 2018). Urban-rural reverse or counter migration includes former rural residents returning home (Vuin et al. 2016), and wealthy urban amenity migrants.

Social and economic change in rural communities thus involves: economics, eg. growth and decline of particular industries; demographics, such as retirement or schooling; and lifestyle, including society and environment. WHAs are one feature, and tourism is one opportunity. Economic consequences of World Heritage tourism are thus embedded in a broad social and economic context, that includes population mobility.

METHODS

Design, Tourism Context, & Study Site

To analyse links between tourism and World Heritage, we use a newly-designated WHA, in an isolated rural region previously reliant on agriculture, where human settlements are small and impoverished. We examine small-scale trends in social, economic and environmental factors, including tourism, to isolate the mechanisms by which WHA declaration affects tourism. We compile qualitative data for individual households, to identify factors driving their actions and decisions.

Tourism is an important and growing sector of the Iranian economy (WTTC 2016; Khoikhoi et al. 2017), though strongly affected by geopolitical factors (Khodadadi 2018; Pratt & Alizadeh 2018). It includes cultural, rural, eco and adventure components (Azimi & Avetisyan 2017; Ghanian et al. 2017; Mosammam et al. 2016; Seyfi et al. 2018). Heritage designation is used routinely in tourism branding in Iran (Saeedi & Heidarzadeh Hanzae 2018), as elsewhere (King and Halpenny 2014).

The WHA used here is the Dasht-e-Lut Desert, in Kerman and Sistan-Baluchistan Provinces of south-eastern Iran. This is Iran's first designated Natural World Heritage Area, listed in 2016. It is a large hyper-arid desert. Local settlements relied historically on small-scale irrigated agriculture and horticulture, using water supplied through qanats, underground channels dug by hand over past millennia. Tourism is new. Access is via Kerman to Shahdad, population <6000, and thence to small villages, populations <200, on the low-altitude outwash plains along the desert margin. From the northernmost of these, Dey Seyf, the Shahdad-Nehbandan road leads north around the Dasht-e-Lut, with 4WD access to the desert. Tourism economics have been analysed previously for Shahdad district (Hasanshahi & Salmanzadeh 2013) and Kerman Province (Jalali & Khademolhoseini 2015).

The Dasht-e-Lut includes three main landforms. These, and roads and villages, are visible in satellite view on Google® Earth®. The eastern section, the Rig-e-Malan, consists of mobile, unvegetated, complex multi-tiered barchanoid transverse dunes to several hundred metres high. The central section is a level plain with a gravel lag, hammada. The western section consists of kalouts, wind-eroded hills of semi-consolidated sediment, up to several hundred metres high. Kalouts are known globally as yardangs, but kalouts are much larger than yardangs elsewhere. There are smaller areas with rocky outcrops, canyons, salt lakes, and nebhkas, individual small dunelets built by sediment accretion around low dense shrubs. Tour operators and self-drive tourists using buses and cars are restricted to roads. They skirt the northwest margins of the desert, visiting the smaller kalouts. Off-road operators provide guided multi-day camping tours accessing all landforms, either tagalong or fully supplied.

Most visitors use tourist accommodation in the villages on the western edge of the WHA. There are four types, all marketed as ecolodges. The first comprises small-scale guest rooms, free-standing or part of family residential dwellings. The second consists of refurbished heritage buildings such as walled caravanserais. These were overnight halting points, serais, for pre-vehicular packstock transport systems, caravans. They may incorporate qanats and underground bath-houses. The third type is a purpose built camp, Shahdad Desert Camp, near the kalouts 8 km NNE of Dey Seyf village. Constructed by Kerman Municipality, it was transferred to a private company, Kerman Omran-e Alavi Mahan, after falling into disrepair. It consists of circular concrete sleeping platforms covered by woven wickerwork domes, with a central shower and toilet block and cooking area. The fourth type is a new tourist resort in Malekabad, owned by the Iranian airline company Mahan.

Family-owned village accommodation follows two styles. Most widespread is homestay style, where rooms in a family house are allocated for tourists, sharing meals and bathroom. The other style is a set of semi-detached stalls with common roof and rear wall, and the front with a half-wall or none. They have thatched roofs, concrete floors laid with carpets, and concrete-block walls, plastered with mud and straw to resemble traditional construction.

Methodology

Our conceptual approach is summarised in Figure 1. Instead of searching for broad-scale statistical connections between World Heritage listing and tourism outcomes, we focus on the mechanism, namely livelihood decisions by individual village households. We interviewed individuals most closely involved and affected by tourism, to track recent history, current patterns, and future expectations for tourism itself, and for other social, economic and environmental factors influencing these small rural communities. This includes the period both pre and post listing of the Dasht-e-Lut as a WHA.

[INSERT FIGURE 1 NEAR HERE]

We audited tourism infrastructure, accommodation, and attractions in 9 villages: Sirch, Shahdad, Shafiabad, Ziaratgah, Dey Seyf, Doulatabad, Malekabad, Hanza, & Jahar. Except for two, these are small desert-margin villages with populations <200. All but two support at least one tourist lodge, 26 in total. We visited or stayed at local tourism accommodation, and interviewed proprietors and staff. We joined a multi-day off-road tour, and interviewed owners and guides. Interviews were conducted in Farsi, face-to-face on the premises, or by telephone if preferred. Household members were interviewed separately or jointly according to their own preferences. Topics covered in the interviews are listed in Table 1. Interviews

were conducted in conversational style, with informal probing to elaborate on initial responses. Interviews were recorded, with permission. No incentives were offered.

[INSERT TABLE 1 HERE]

We analysed interview transcripts using standard iterative thematic analysis (Bryman 2016), with deconstruction to smallest scale concepts, reassembly to a hierarchical tree of constructs using open coding, and axial coding to interpret functional links between constructs. To minimise translation errors, we adopted a dual-language approach. Four authors speak Farsi as first language, English second; one speaks English first, Farsi not at all. Three authors created a coding tree in Farsi, and translated it into English. They also translated the entire transcripts from Farsi to English. The English-speaking author conducted a separate analysis, creating a coding tree in English without reference to that created in Farsi. We compared the two analyses, as a cross-lingual test of cross-coding consistency. The themes corresponded closely. We checked responses between interviewees, for factual information and for consistency in opinions.

From the principal themes identified as above, we used axial coding to identify links between themes. This allowed us to construct an overall functional framework for the effects of World Heritage tourism on local livelihoods, economic opportunities and community dynamics. From this framework we were able to demonstrate the critical role of World Heritage tourism in triggering a reversal in **family** migration, and the social consequences of that reversal.

RESULTS

Scale and Scope

We completed formal semi-structured interviews with 37 lodge owners, tour operators, and other local residents involved in tourism businesses, at the towns and villages listed earlier. This was a representative set of tourism stakeholders, and achieved adequate theoretical saturation. Interviewees were 45% female, 55% male. Of the female interviewees, 20% were aged 14-24, 67% were aged 25-44, and 13% aged 45-64. For the male interviewees, the proportions were 0, 32%, and 68% respectively: more older men, and more younger women. None were aged 65 or older. All lived and/or worked in the villages. They included: 13 working owners and 6 non-owner staff from operational lodges; 4 owners and 1 staff member from lodges under construction; 8 tour guides and transport operators; and 5 members of local handicraft associations.

The overall coding tree, with three tiers of themes, is summarised in Table 2. These themes show that for these rural communities, migration and counter-migration take place within a broader context of drought and water supply, economic survival, family dynamics and cultural change. World Heritage tourism has changed the economic context, and in the process has also changed social and cultural dynamics.

[INSERT TABLE 2 HERE]

Urban and Counter-urban Migration

Urban migration, and counter-urban reverse migration, were a recurrent theme in every village. Urban migration was perceived as negative, through disruption to family and

community life; counter-urban migration, facilitated by tourism, was perceived as positive, restoring family opportunities. In the recent past, family members or entire households were forced to move from the villages to the city in search of employment and livelihood. The main reason was lack of water for agricultural production. Interviewees said that people moved to the city because of “drought”, “lack of income”, “no job”, and “unemployment”. Those moving were principally from younger demographics: “since the 1980’s, about 70% of the young people migrated”; “young people migrated to find jobs”. Migration is also linked to marriage and children. Younger people “moved when they got married”; “usually leave after getting married”. Schools are also important: “moved for children’s education”; “moved to the city for secondary school. As a result, “the number of students .. has dropped by 75%”, because “the students have moved to the city”; so “village schools are closing”.

Now, however, family tourism businesses were providing opportunities for the same individuals to return from the city to the villages, leading to substantial reverse migration. Individual respondents said they had been “in the city for 20 years, but came back recently”; “in the city for 10 years, but came back 9 years ago”; and in one case “persuaded my brother to come back.” Such counter-migration is widespread: “people are coming back to the villages”; “many people are returning”. Tourism is a major driver: “40-50% return because of tourism”; “I returned to establish this ecolodge”; “people are moving back by establishing ecolodges.” This is easier for those who already own village houses: “those who own houses here are coming back”; “I will reconstruct my grandfather’s house as an ecolodge”; “I am changing my father’s house to an ecolodge.”

Tourism is not the only factor contributing to urban-rural reverse migration, and it is not significant for every household. Changes in rural agriculture, urban employment, and schooling opportunities are also important. It is only through qualitative analysis at the micro scale of individual households that we can discern the existence of urban-rural reverse migration, its scale and growth despite drought and decline in agriculture, the role of tourism as its key driver, and the different opportunities and constraints for different families in different villages at different times.

Water, Drought & Qanats

The Dasht-e-Lut WHA is a desert, and for the adjacent villages, everything depends on water. Water supply and availability, including droughts and qanats, was a key theme throughout this analysis. Water for these villages originates as snowfall in the mountains west of the desert. Snowmelt flows eastward towards the desert along sediment-filled watercourses, incised on the higher slopes, and braided in the outwash plains. In some areas, date palms can be planted directly in the lower braided sections.

Elsewhere, agriculture is largely reliant on qanats, underground water tunnels dug by hand. These transport water from the upper slopes of the mountains, to the villages on the outwash plains, with minimal evaporation losses. Qanats are dug in sections, accessed through a series of vertical shafts along the route. They can be traced, on the ground or in satellite imagery, as a line of evenly spaced spoil heaps at the top of these shafts. Qanats can be dug diagonally, to distribute water flows more broadly than the direct downhill path of a natural watercourse. Historically, qanats were an essential and integral component of human survival in this region, and many other parts of Iran and neighbouring countries.

In recent years, qanats have been supplemented and partially supplanted by boreholes, two-stroke pumps, and plastic piping. This yields three effects. First, pumping water from boreholes has caused some qanats to dry up. Second, reduced dependence on qanats has led some to fall into disrepair. Third, changing control of water supply, from communally owned qanats to privately owned piping systems, has modified local distribution of wealth. In one village, Hanza, there is a public water pipe from a spring, but this is broken.

Water is critical for tourism development around the Dasht-e-Lut. Local communities need water to survive. Annual rainfall has been below long-term mean (Javari 2016; Soltani et al. 2012) for 15 years, and irrigation areas have declined. Households with insufficient water were forced to move to towns. These effects are more severe during drought years, and in villages with less reliable water supplies. Tourism consumes additional water, and *per capita* consumption increases with luxury (Li 2018). Tourism competes for water against other industry sectors such as irrigated agriculture, both at large and local scale.

For future tourism development around Dasht-e-Lut WHA, water supply of water is the single most critical constraint. Low-key, small-scale tourism accommodation currently relies on domestic water supplies. These differ considerably between villages, and between different parts of the same village. Some respondents said that they had “*enough water*”, “*underground water*”, or “*a qanat with good water level*”. Others, however, said that “*water levels are decreasing in some villages*”, “*we dug wells but there was no water*”, “*the water level has fallen*”, “*the qanat is shallow in summer*”, and “*some qanats are dry*”, so that they have “*hardly any drinkable water*”. Water quality as well as quantity is declining: “*the new well was salty*”; “*we dug three wells, but two are useless.*” A few villages have “*pipled spring water*”, but even these “*have decreased through lack of rain.*”

Some households had been forced to leave the Dasht-e-Lut villages when farming failed through lack of water: “*agriculture was affected by drought*”; “*the citrus and dates dried out from drought*”. Interviewees said that: “*the villages depend on water*”; “*the qanats are dry and the villages abandoned*”; “*the qanat in Ziaratgah dried up*”; and that “*there was no more water so we had to leave.*” Some switched crops: “*now we plant garlic*”. Some said: “*we still grow vegetables*”.

As noted above, some households have now been able to return to the villages by switching to tourism operations with smaller water demand, and this has been a key factor in local employment. Water supply is critical: “*the village depends on the qanat*”; “*if qanats recover, then people will return*”; “*we revitalize the qanat, so people come back.*” Interviewees recognised the need to invest in maintaining qanats: “*we need money to dig the qanats*”; “*restoring qanats needs funds*”; and “*we have raised money to restore qanats.*” There is also a risk that small-scale water supplies may be captured, either by large-scale irrigated agriculture, or by large-scale tourist resorts. Residents at Malekabad, the site of a new resort (see below), were concerned that “*they will pipe water to Malekabad*”, to provide “*water for the new resort*”.

Investment, Profitability, and Competition

Interviewees provided information on commercial factors, including: investors and profitability; demand, supply and local competition between ecolodges; and the likely competitive effects of a new upmarket resort under construction by an airline. Most small-scale tourism accommodation in the Dasht-e-Lut villages is owned by local resident families.

A few are owned by wealthy individuals from Kerman, but at least some of these individuals originate from the villages. Aftab Kalout, a major off-road tour company operating in the Dasht-e-Lut, is owned by a local couple, but also operates nationwide and employs guides unrelated to the owners. It brings business to the villages, using local accommodation and contracting local enterprises to provide catering and consumables, and run airport shuttles.

According to interviewees, *“most investors are local people”*; *“investments belong to locals”*; and *“90% of ecolodge investments are local”*. However, *“there are one or two outside investors”*, and *“some investors from Kerman.”* The locals are against this: *“local ecolodge owners are worried”*, and *“locals are dissatisfied with outsiders.”* However, they acknowledge that: *“locals cannot stop external investors.”* In practice, it appears that even investors from Kerman do have local connections. They are *“local people who migrated and returned”*, in order to *“run a business in their own birthplace.”* For example, they: *“live in Kerman but come from Shahdad”*, or *“went to Kerman years ago but live here now”*.

Of greater concern, to most local entrepreneurs, is the relatively small share of total travel costs that accrues to local businesses. This is commonplace worldwide, reflecting the structure of a multi-tier industry sector, but locals may not be aware of that. Interviewees complained that: *“Tehran tours make more money here than locals”*; *“90% of tours are handled by Tehran agencies”*; and that *“locals earn nothing compared to Tehran people.”* They said that: *“the lodge gets US\$5-25 per tourist per night”*, even though *“domestic tourists have paid \$1800 for the tour”*, and *“international tourists have paid \$5000-8000”*. For most of the off-road and tagalong tours, lodge owners complained that: *“off-road tours don’t use ecolodges and don’t spend.”*

Economic viability and dependence varied between villages and lodges. Some lodges were thriving, others still under development: *“our income can just cover costs”*; *“we spend our income for ecolodge costs”*. Some households used other assets or income in order to survive: *“I own this house so I do not need to pay rent”*; *“tourism is not our main income source.”* In the larger and more central villages, visitor numbers had been low historically, but are now increasing: *“in Shafiabad, tourists are increasing”*; *“the number of tourists was just a few earlier”*; *“the number of foreign tourists was very low”*. As a result, most tourism operators were confident: *“we were worried, but now we have enough customers”*; *“there are new lodges, but there are enough tourists too.”* In villages that have only recently commenced hosting tourists, such as the northernmost village of Dey Seyf, there was concern over economic viability: *“there are not enough tourists.”* Even so, residents said that: *“we are not competitors but friends.”*

In other villages, individual lodge owners claimed that: *“our quality level is high so competitors cannot affect us”*, and that *“competition is constructive.”* They were more concerned over the regional reputation of the sector: *“service quality will be determinant”*, and *“we are worried about price wars and poor service”*, since *“that would have consequences for the whole region.”* Indeed, in villages with high tourist numbers, lodge owners were concerned that: *“ecolodge numbers in Shafiabad must increase”*, to *“provide enough accommodation when tourists come”*, since *“if tourists cannot find a place, that will produce negative propaganda.”* Overall, interviewees took an optimistic and ultimately religious view: *“we wish for the best and hope God is with us”*; *“our hope is in God”*; *“we do not worry as we believe that God is the provider.”*

Many interviewees mentioned that the well-funded Iranian domestic airline Mahan, the principal carrier between Tehran and Kerman, has purchased private landholdings in the village of Malekabad, and plans to open a tourist resort there. Malekabad is rather dissimilar to the other villages studied here. It lies far out on the outwash plains, in an area of nebkhas within the margins of the desert itself. Satellite imagery shows an abandoned caravanserai, and large areas of abandoned agricultural land, especially on the eastern (desert) side. Some interviewees mentioned that they had left Malekabad through lack of water, and this is borne out by historical population statistics for this village. It seems that water supplies to Malekabad have dwindled severely, through deterioration of qanats, or upstream capture.

Interviewees said that “*Mahan Airlines has bought a garden in Malekabad*”, and that “*Mahan has bought 60-70% of houses in Malekabad.*” There was conflicting information about design, scale, and timing: “*Mahan Airlines will set up 70 fully equipped tents*”; “*a huge resort*”; “*twenty-five million dollars*”; “*an airport too*”; “*open by New Year*”. Some interviewees expressed optimism that the resort will provide local employment: “*100% of workforce is from Malekabad and nearby*”. Others, however, feared that it will compete with smaller-scale enterprises in Malekabad: “*no more ecolodge licenses in Malekabad*”, “*locals will not be profited any more*”. During 2018-19, we made direct enquiries to Mahan, and they advised that initially, they are constructing a 14-tent facility. Access will be via a newly constructed airstrip, and water will be supplied via a pipeline from further up the mountainside. This indicates a luxury facility with substantial water capture.

The key implication of this development is that Mahan, a very large private company with strong government connections in Kerman and nationally, sees a profitable entrepreneurial opportunity in upmarket tourism associated with the Dasht-e-Lut WHA. An airstrip and luxury tented camp indicates that they aim to attract wealthy tourists, international as well as domestic, who are prepared to pay for rapid and comfortable access, luxury accommodation, and immediate proximity to the desert. It seems likely that the resort will establish its own exclusive access route directly into the southern section of the kalouts. From the perspective of our analysis here, this provides further confirmation of the growth in tourism to the Dasht-e-Lut WHA. The new resort will expand the market to higher tiers, and we can anticipate that this will indirectly lead to further growth in lower brackets, as the Dasht-e-Lut becomes an internationally known destination. As of April 2019, Mahan advises that this development is proceeding, despite US sanctions on Iran generally and Mahan specifically.

Discounted Loans and Government Roles

Many informants mentioned the significance of a national government loan finance program, specifically for ecotourism development, and administered by ICHTO, the Iran Cultural and Heritage Tourism Organisation: “*government loans to establish ecolodges.*” The interest rate is 4%, whereas commercial interest rates in Iran are ~26%: “*the interest rate is 4%, paid back over 56 months*”. The maximum individual loan available was quoted as “*\$12500*”, “*\$13500*”, or “*\$5000-25000*”. Only one owner argued that: “*the loan was not enough*”. Loans were sought after strongly, despite complex and protracted application procedures: “*the loan procedure is difficult*”; “*license ... bank ... entrepreneur fund*”; “*will take six months*”; “*hard, and took a year*”. Only one respondent said that they: “*did not get loan ... worried could not pay it back ... no income if tourists don't come.*” From our observations, occupancy rates in new accommodation are very low. It seems that as yet, supply exceeds demand, so it may prove difficult for these new ventures to prove commercially viable.

These low-interest loans were seen as a very significant driver in new construction, and a significant financial opportunity by anyone eligible. One contributing factor is that lodge owners used very basic rural construction techniques, *“ecolodges built with wood, straw, mud”*, whereas the *“loan amount is based on city building costs”*. As a result, some interviewees said that *“locals can buy other things, like a car.”* From our own observations on site, some new constructions were well built, but some were rudimentary.

ICHTO also offers seed funds, business advice, and hospitality training, and is responsible for regulation and permitting in tourism, including ecotourism. Interviewees were equivocal in their views on these aspects. Some acknowledged ICHTO advice: *“we converted our house to a lodge on ICHTO advice.”* Many respondents, however, reported *“nothing from ICHTO”*. Interviewees said that *“lodges get a superficial permit from ICHTO”*, but that ICHTO issues *“too many licenses for a small village.”* ICHTO has itself constructed small seed developments: *“ICHTO established temporary camps”*. It has also run *“courses on dealing with tourists”*, which *“told us that food and hygiene are very important.”* Lodge owners complained, however, that: *“ICHTO did not tell us anything new”*, and that they run *“courses for hotels but not ecolodges”*; whereas in the lodge owners’ views, *“we need courses on marketing”*; and *“ICHTO should tell us new laws”*.

Cultural Impacts

All our local interviewees expressed a strongly positive attitude towards the growth in tourism. However, we only interviewed individuals who were directly involved in tourism, and thus had the greatest opportunity to benefit. We did not see any signs of ostentatious wealth amongst households involved in tourism, but we did see signs of relative prosperity such as jewellery and four-wheel-drive vehicles.

Interviewees mentioned that they had gradually grown used to interacting with tourists: *“I was shy, but not any more”*; *“now people feel comfortable with tourists”*; *“we establish a close relationship with them”*; *“we teach them our traditions and lifestyle”*. They enjoy these interactions: *“new people ... entertainment ... don’t stay home”*; *“I was depressed, but now I am really good”*; *“our town is no longer like a dead city”*. Residents learn from tourists, as well as vice versa: *“we learn something new from every tourist”*; *“we learn about work and life in their countries”*; *“tourists have diversified our lives”*.

Tourism has also changed the behaviour of children: *“children behave better than before”*; *“my 8-year-old daughter greets the tourists”*; *“children are more sociable after dealing with tourists”*. This was perceived as positive, with negative aspects limited and manageable: *“sometimes they want what tourists have, but those things are expensive, and our children accept that”*; *“tourism may have some influence on how we train our children”*; since *“we want our children to learn English and get work”*.

Most of our respondents said that tourism had not created any cultural impacts: *“there is no influence at home”*; *“they do not influence our behaviour”*; *“we retain rural traditions and don’t imitate urban culture”*. A few mentioned that they had changed to a more Western style of dress: *“we wear different clothes when dealing with guests”*; *“I model my clothing or hairstyle on tourists”*. Western clothing styles, however, are already widely adopted in Iran. Several said that international tourists behaved well, but domestic tourists less so: *“problems with Iranian tourists”*; *“Iranian tourists worse than foreigners”*; *“broke wall ... cut flowers ... picked oranges ... set fire to garden ... stole a dog and pillows.”* Tour guides mentioned

that: *“Iranians throw rubbish in the desert and the village”*; *“they come with motorcycle and car and throw rubbish”*, whereas *“international tourists collect rubbish in the desert”*, so *“we learned that we should not throw away the rubbish”*.

Some interviewees mentioned that international tourists expressed interest in local cultures, and were enthusiastic to learn more. The traditional art of patch, for example, known to weaving connoisseurs worldwide, is still carried on in the Dasht-e-Lut villages. Off-road tours may provide another opportunity. Currently, they focus on safety and efficiency rather than culture. They use internationally made vehicles, tents and other equipment, to minimise weight and volume. It would be possible, however, to re-create the opulent ambience of bygone camel caravans, using heavy tents, carpets, copper basins, and so on. That would need separate gear trucks, and camp staff to travel ahead of guests, which would increase *per capita* costs and prices. Similar approaches, however, are used by some mobile safari companies in Africa, and could present a possible future market opportunity as the Dasht-e-Lut desert tours become better known.

Family Dynamics: Finances and Freedoms

At the level of local village communities, most tourism enterprises were family endeavours: *“we employ family first, and locals second”*; *“the family runs the lodge, with locals if needed”*. For the small-scale homestays and ecolodges, family members did the work such as cooking and cleaning, commonly without any formal accounting or salary payments. They shared the income from the lodge, and made joint decisions on expenditure: *“we spend the money together”*; *“we get on well and we decide together”*; *“we use the money for our life together”*. For family finances, households considered themselves as a single unit: *“we are not separate from each other”*; *“there is no difference between us.”*

For handicrafts, however, a different model was more commonplace. The women who created these arts and artefacts, especially the valuable patch weaving, have formed local cooperatives to promote and market them, with agreed divisions of sales between the cooperatives and the artisans. This is possible because women can now sell directly to tourists, whereas historically they had to sell through brokers. *“Patch was woven from years ago, but the profit went to brokers”*; *“there is more money now because there is no broker.”* They formed their own women’s enterprise association, *“to make women independent”*, and to *“enable women to earn money”*. The association was started in Shafiabad *“by six of us”*, and grew rapidly so that *“now 23 of 100 are members in Shafiabad”*, and *“Deh Seyf and Malekabad joined as well”*.

The women’s enterprise association has been very active, especially in setting aside funds to repair qanats: *“15% to fund the association, 15% for the qanat fund, 70% for the individual.”* This is possible since *“income from the association belongs to women.”* Association members said that: *“some share with husbands and some do not”*; *“the income belongs to me, but I share it.”* At least in some households, their husbands accept this: *“her [craft] income belongs to her”*; *“my husband does not expect me to give him my income”*; *“we are not obliged to give our income to our husbands”*. This has generated new economic and social self-reliance for women, who previously had to ask male members of the family for any financial purchases: *“the things I want, I will buy for myself”*; *“I do not need to get money from my father”*; *“I am not reliant on my family anymore”*; *“I am confident, and my self-respect has strengthened.”*

This has created considerable new social freedom for women, who were previously unable to leave the household unaccompanied, or to speak up at meetings. Interviewees said that in the past: *“we never travelled alone”*; *“it was unacceptable for a woman to drive a car”*; and *“if there were meetings, women did not participate”*; *“it was not good for a woman to be in a meeting or talk.”* Such restrictions reflected the social structure of rural communities, and do not apply in major cities in Iran. Now, however, women can and do travel alone, speak and negotiate directly with tourists, run their own enterprises, and manage their own money: *“women can do more things than housekeeping”*; *“women were in the home, but now they are in the community”*.

Women had to overcome some initial social resistance to achieve this: *“there were negative attitudes, but women stood up”*; *“our aim is important, not what our husbands think.”* One reason for this is that the women allocated some of their earnings to repair qanats, nominally a men’s responsibility. This independence is now acknowledged widely: *“my family were not happy, but now they have no problem”*; *“in the past, my father asked many questions, but now I go out and he knows why.”* Men have accepted this expanded female role in regard to tourists: *“in the past, we had a different attitude toward strangers, women could not go out and talk to them”*; *“we were uncomfortable if our wives talked to strangers, but now foreigners know them by their names.”* Men as well as women now view this increased female independence in a positive light: *“we have changed now”*; *“it is much better now”*. This very significant social change is directly ascribable to the new economic opportunities created by World Heritage tourism.

ANALYSIS & FUNCTIONAL FRAMEWORK

Figure 2 shows a simplified decision tree **at micro-scale** for individual households, combining the drivers and constraints outlined above. For some households, lack of water or local schools are overriding considerations. In the few villages where water supplies remain ample for agriculture, date plantations or high-value ground crops such as garlic can still supply income. For villages where water supplies are no longer sufficient for farming, World Heritage tourism provides new economic opportunities. These are greatest for households that already own houses in the villages, and which can obtain ICHTO ecotourism loans at discounted interest rates, even if they make little use of other ICHTO services. These new ecolodges provide employment for family members who had previously migrated from villages to cities, but who can now move back from the cities to the villages. These components are shown **at macro-scale** in Figure 3.

The growth of tourism and reversal of migration has generated economic recovery, social revitalisation, and cultural changes. Most significant is that women can now sell their traditional patch weaving, other arts and artefacts, and their domestic skills in cooking and housekeeping, directly to tourists. They sell patch and artefacts through enterprise associations, and cooking and housekeeping via family ecolodges. The funds raised are sufficient to maintain families, hire neighbours, and contribute to repair of water supplies. In consequence, women have gained far greater freedom, recognition, and self-respect.

In summary, we found that in the absence of World Heritage tourism, younger people moved to town in search of jobs, driven by declining water supply and crop prices, and consequent loss of income and employment. Because of this migration, village populations were shrinking, schools closing, and qanats falling into disrepair. This generated a feedback effect that accelerated rural-urban migration and village decline. World Heritage declaration,

however, boosted tourism arrivals, especially of wealthier and international tourists. This provided new business and employment opportunities in well-placed villages with adequate water for tourism, especially for families who already owned houses in those villages. ICHTO loans provided building capital at a heavily discounted interest rate, and this led young people to move from town back to the villages, to build and refurbish lodges, which provided local employment and supported ancillary businesses. As a result, village populations recovered, schools reopened, and qanats were repaired. That is, it generated positive feedback, accelerating urban-rural reverse migration and village recovery.

DISCUSSION & CONCLUSIONS

Links between Tourism and Migration

The economic well-being of local communities around the Dasht-e-Lut did indeed improve following its declaration as a Natural World Heritage Area. Tourism was the trigger, and a necessary part of this improvement; but not the sole driver, nor sufficient on its own. Tourism to date has provided a relatively small additional income, but **for the families concerned**, this income tipped the balance from net outward to net return migration, between village and city. This switch brought a change from declining to recovering economic opportunity, education, and infrastructure, especially for water supply. It occurred at the scale of individual families and households, making use of prior family connections and existing family houses.

The approach adopted here thus reveals a rather subtle mechanism by which WHA tourism contributes to rural economic development: it **can reverse** the direction of economic migration, from rural-urban migration to urban-rural countermigration. Migration in either direction, once started, is sustained through a set of feedback processes. WHA designation tipped the balance towards reverse migration, and tourism has created the positive feedbacks that are reviving the rural economies. Listing of the Dasht-e-Lut as a WHA thus triggered a switch between two opposite processes, each with its own internal feedbacks. Village decline and urban migration, due to a combination of factors in the agricultural sector, was replaced by village recovery and rural reverse migration, driven by new economic, employment, and family opportunities in tourism.

From a migration perspective, factors such as income, employment and education are a commonplace component of rural-urban migration and urban-rural reverse or counter-migration (Vuin et al. 2016). The role of World Heritage tourism in switching the direction of migration through household-scale economic decisions, however, has not been identified or demonstrated previously. This adds a new aspect to analyses of population mobility in rural areas. From a tourism perspective, our results show first, that worldwide publicity associated with World Heritage designation of the Dasht-e-Lut has indeed influenced tourism; second, that tourism has influenced employment, migration, and cultural change; and third, that the mechanisms of influence operate at the scale of single households or even single individuals. The first and second of these reflect previous findings (Buckley 2017). The third is novel.

This analysis thus strengthens the theoretical linkages between research on World Heritage tourism, and urban-rural migration and reverse migration. For the Dasht-e-Lut villages, rural-urban migration is driven by declining agriculture, and urban-rural reverse migration by expanding World Heritage tourism. Tourism development can only be understood in the context of migration, and changing migration patterns can only be understood in the context

of tourism. It seems likely, though as yet untested, that these links apply widely, especially for regions where previous livelihoods based on primary production are failing. Perhaps every analysis of rural tourism should consider migration as part of the social context.

Methodological Aspects

This analysis combined two approaches not often used together. It used an experimental design approach, focussing on a remote region with only a single industry sector, to isolate and identify the effects of a nascent tourism industry based on a newly declared WHA. Isolating causative factors through experimental design is commonly the province of quantitative methods and interventions. In this analysis, however, the primary data were derived from a qualitative methodology, applied to interviews with a diverse range of individual stakeholders. This combination, though little used hitherto, was able to show just how, why, and how strongly the outcomes of WHA declaration and tourism depend on the detailed context of individual WHAs.

The qualitative interviews were able to reveal and illuminate the factors and processes involved in individual household decisions, at a very fine-grained scale. For example, they showed how, and why, single individual family members moved first to the city, and later back to the villages. They showed how very localised processes, such as the formation of a women's enterprise association to bypass brokers in the sale of craft products, allowed the women to gain greater influence in financial decisions and in social change, including family ambitions for children's livelihoods. They showed how variations in time and space for a limiting resource, namely water, changed the opportunities available to each village. Each of these particular findings is specific to this particular case, but the general methodological approach is applicable much more widely. Focussing at local scale thus proved to be a strength rather than a limitation.

Reasons for Variable Effects of World Heritage on Tourism

Yang et al. (2019) have recently published a very thorough meta-analysis of the effects of listing World Heritage sites (WHS) on the economics of tourism, incorporating 344 econometric estimates from 34 previous studies. They noted (p. 37) that: "the tourism-enhancing effect of WHS status has been fiercely debated with no consensus in sight". Across all 344 cases, they concluded that: "the effect of WHS listing on tourism demand was found to be insignificant"; but that this was because of "the multitude of inter-related variables that can catalyze or camouflage the influence of WHS status." Some of these variables reflect methodological differences between studies, whereas others reflect differences between WHAs. For the latter, Yang et al. (2019) found that differences between natural and cultural WHAs, and between developed and developing countries, were most influential.

Our findings here indicate an underlying mechanism for the variability found by Yang et al. (2019). Effects differ between WHAs, because they depend on local as well as large-scale factors. Yang et al. (2019) found greater consistency in outcomes between cases with shared features: especially, WHAs in developing countries that have only recently been declared and were not previously well-known as tourism attractions. The Dasht-e-Lut findings fit that pattern.

In addition, our findings suggest several broad-scale patterns that go beyond the set of parameters considered by Yang et al. (2019). First, conservation can provide new opportunities for tourism, and small-scale tourism can trigger large-scale social and land-use change. This is the mechanism used in conservation tourism worldwide (Buckley & Pabla 2012; Buckley & Mossaz 2018). Second, opportunities and outcomes for tourism depend on broader scale human geographical context, such as migration patterns and environmental resources. This is commonplace, but as noted earlier, the links are rarely identified explicitly.

Third, funding organisations can achieve maximum leverage by targeting and timing grants, loans, and investments to assist and encourage land-use decisions by individual landholders. This has been shown previously, for example, for NGOs aiming to achieve conservation through ecotourism on private landholdings in Brazil (Buckley and Pegas 2014), and worldwide (Romero-Brito et al. 2016). None of those studies, however, examined decision processes operating simultaneously at scales from national to individual. Government ecotourism loans in the Dasht-e-Lut case, though small, were successful because of timing and targeting. They provided funds to precisely those households that were willing and able to start tourism enterprises, at precisely the moment when they were making a family financial decision whether or not to make this attempt.

Policy, Management & Future Research

Broadly, our findings support the recommendations of Yang et al. (2019) that governments in developing nations should invest in nominating WHAs, to provide economic opportunities through tourism for local communities in remote areas. We suggest, however, that a detailed understanding of local factors is also required, to predict economic, social and environmental outcomes of WHA nominations and listings. Such factors influence both the type and scale of commercial tourism, and the consequences for residents.

In addition to factors affecting tourism globally, there are several aspects specific to remote WHAs. First, tourist volume is influenced strongly by the interaction between attractiveness and access. Tourists are prepared to overcome difficulties in access only for attractions that are particularly unusual, unique and memorable. Declaration as a Natural WHA is a strong signal that an area is globally outstanding and worthy of visitation, especially for tourists interested in scenery, nature and wildlife; but tourists still have to be able to get there.

Second, price is strongly linked to service quality. If remoteness and difficult access impose high *per capita* costs and hence prices, then tourists will also expect a high quality of comfort, service, and efficiency. The harder it is to get somewhere, the more important it is to make clients comfortable along the way. This includes safety, transport, accommodation, catering, and guiding. Local domestic tourists, who can arrive with their own transport and food, may be satisfied with low-key accommodation and facilities and inexperienced guides. International tourists who have already paid a substantial price simply to reach the destination, however, will only be satisfied with comfortable facilities and expert guides.

Iran does already have a number of luxury remote-area lodges, but none as yet in the Dasht-e-Lut. It appears that one unintended effect of the Iran ICHTO ecotourism loans has been to create oversupply at the lower end of the market. It remains to be seen if the Mahan resort at Malekabad can balance this with opportunities at the upper end. There are also opportunities for desert tour companies, such as Aftab Kalout, to offer tours with more expensive and

luxurious format, as outlined earlier. Upmarket opportunities, however, depend on the ability of wealthy tourists, either domestic or international, to visit these areas.

Three aspects of this analysis seem especially interesting for future research. The first is the method, combining experimental design and qualitative data. It seems that this approach may deserve broader consideration. The second is social dynamics, the ability of a small tourism sector to trigger much larger-scale changes in land use and social structures. Are there other examples of this “trigger” or “threshold” effect? The third is the search for a general model of tourism and World Heritage. Previous studies, as reviewed recently by Yang et al. (2019), have yielded inconsistent and conflicting outcomes, with high variability between cases. The current study suggests that such variability is to be expected, because the interactions of large scale and local scale factors differ so greatly between individual WHAs. That is, the Dasht-e-Lut study suggests a mechanism underlying the global econometric findings of Yang et al. (2019). To test this mechanism, we would need to undertake equally fine-grained analyses in a range of different WHAs worldwide. This seems to be a valuable **research** opportunity.

References

- Allan, J. R., O. Venter, S. Maxwell, B. Bertzky, K. Jones, Y. Shi, and J.E. Watson. 2017. "Recent Increases in Human Pressure and Forest Loss Threaten Many Natural World Heritage Sites." *Biological Conservation* 206:47-55.
- Azimi, F., and S. Avetisyan. 2017. "On the Status of Rural Tourism and Tourism Economy in Iran." *International Journal of Agricultural Management and Development* 7:71-7.
- Baral, N., S. Kaul, J.T. Heinen, and S.B. Ale. 2017. "Estimating the Value of the World Heritage Site Designation: a Case Study from Sagarmatha (Mount Everest) National Park, Nepal." *Journal of Sustainable Tourism* 25:1776-91.
- Bryman, A. 2016. *Social Research Methods*. 5th ed. Oxford: Oxford.
- Buckley, R. C. 2017. "Tourism and Natural World Heritage: a Complicated Relationship." *Journal of Travel Research* 57:563-78.
- Buckley, R.C. and A. Mossaz, 2018. "Private Conservation Funding from Wildlife Tourism Enterprises in Sub-Saharan Africa: Conservation Marketing Beliefs and Practices." *Biological Conservation* 218:57-63.
- Buckley, R.C. and H.S. Pabla. 2012. "Conservation: Tourism Ban Won't Help Indian Tigers." *Nature* 489:33.
- Buckley, R.C. and F. de V. Pegas. 2014. "Conserving Brazil's Atlantic Forests." *Science* 346:1193.
- Caust, J., and M. Vecco. 2017. "Is UNESCO World Heritage Recognition a Blessing or Burden? Evidence from Developing Asian Countries." *Journal of Cultural Heritage* 27:1-9.
- Cuccia, T., C. Guccio, and I. Rizzo. 2016. "The Effects of UNESCO World Heritage List Inscription on Tourism Destinations Performance in Italian Regions." *Economic Modelling* 53:494-508.
- Eliasson, K., H. Westlund, and M. Johansson. 2015. "Determinants of Net Migration to Rural Areas, and the Impacts of Migration on Rural Labour Markets and Self-Employment in Rural Sweden." *European Planning Studies*, 23:693-709.
- Gascón, J. 2016. "Residential Tourism and Depeasantisation in the Ecuadorian Andes." *The Journal of Peasant Studies* 43:868-85.
- Ghanian, M., O.M. Ghoochani, and J.C. Crotts . 2014. "An Application of European Performance Satisfaction Index Towards Rural Tourism: The Case of Western Iran." *Tourism Management Perspectives* 11:77-82.
- Hardiman, N., and S. Burgin. 2017. "Nature Tourism Trends in Australia with Reference to the Greater Blue Mountains World Heritage Area." *Journal of Sustainable Tourism* 25: 732-45.
- Hasanshahi, M., and M. Salmanizadeh. 2013. "Economic Valuation of Shahdad Desert." *Natural Resources Economy* 2:17-22.
- Hoefle, S. W. 2016. "Multi-Functionality, Juxtaposition and Conflict in The Central Amazon: Will Tourism Contribute to Rural Livelihoods and Save the Rainforest?" *Journal of Rural Studies* 44:24-36.
- Hussain, S. A., S. C. Barthwal, R. Badola, S. M. T. Rahman, A. Rastogi, C. Tuboi, and A. K. Bhardwaj. 2012. "An Analysis of Livelihood Linkages of Tourism in Kaziranga National Park, a Natural World Heritage Site in India." *Parks* 18 (2): 32.
- Jalali, M., and A. Khademolhoseini. 2015. "Classification of Tourism Pilot Zones of Kerman Province." *Regional Planning Quarterly* 5(17).
- Javari, M. 2016. "Trend and Homogeneity Analysis of Precipitation in Iran." *Climate* 2016 4(3):44.

- Kaltenborn, B. P., J. Thomassen, L. C. Wold, J. D. Linnell, and B. Skar. 2013. "World Heritage Status as a Foundation for Building Local Futures? A Case Study from Vega in Central Norway." *Journal of Sustainable Tourism* 21:99–116.
- King, L. M., and E. A. Halpenny. 2014. "Communicating the World Heritage Brand: Visitor Awareness of UNESCO's World Heritage Symbol and the Implications for Sites, Stakeholders and Sustainable Management." *Journal of Sustainable Tourism* 22:768–86.
- Khodadadi, M. 2018. "Donald Trump, US Foreign Policy and Potential Impacts on Iran's Tourism Industry: Post-Nuclear Deal." *Tourism Management Perspectives* 26:28-30.
- Khoshkhou, M. H., V. Alizadeh, and S. Pratt. 2017. "The Economic Contribution of Tourism in Iran: An Input–Output Approach." *Tourism Analysis* 22:435-41.
- Lai, P. H., A. Morrison-Saunders, and S. Grimstad. 2017. "Operating Small Tourism Firms in Rural Destinations: a Social Representations Approach to Examining How Small Tourism Firms Cope With Non-Tourism Induced Changes." *Tourism Management* 58:164-74.
- Li, J. 2018. "Scenario Analysis of Tourism's Water Footprint for China's Beijing-Tianjin-Hebei Region in 2010: Implications for Water Policy." *Journal of Sustainable Tourism*, 26:127-145.
- Liu, J., J. Zhu, C. Lin, Y. Li, and L. Wu. 2017. "Farming Versus Tourism: The Case of a World Heritage Site in China." *Tourism Economics* 23:1581-90.
- Mahdi, A., M.H. Mahdi, and M. Shafiei. 2014. "Factors Influencing Rural-Urban Migration from Mountainous Areas in Iran: A Case Study in West Esfahan." *European Online Journal of Natural and Social Sciences*, 3(3):723.
- Matarrita-Cascante, D. 2017. "Moving The Amenity Migration Literature Forward: Understanding Community-Level Factors Associated with Positive Outcomes After Amenity-Driven Change." *Journal of Rural Studies* 53:26-34.
- Mosammam, H.M., M. Sarrafi, J.T. Nia, and S. Heidari. 2016. "Typology of the Ecotourism Development Approach and an Evaluation from the Sustainability View: The Case of Mazandaran Province, Iran." *Tourism Management Perspectives* 18:168-78.
- Pratt, S., and V. Alizadeh. 2018. "The Economic Impact of the Lifting of Sanctions on Tourism in Iran: a Computable General Equilibrium Analysis." *Current Issues in Tourism* 21:1221-38.
- Rasoolimanesh, S. M., M. Jaafar, A.G., Ahmad, and R. Barghi. 2017. "Community Participation in World Heritage Site Conservation and Tourism Development." *Tourism Management* 58:142-53.
- Ribaldo, G., & P. Figini. 2017. "The Puzzle of Tourism Demand at Destinations Hosting UNESCO World Heritage Sites: An Analysis of Tourism Flows for Italy." *Journal of Travel Research* 56:521-42.
- Romero-Brito, T.P., R.C. Buckley, and J. Byrne. 2016. "NGO Partnerships in Using Ecotourism for Conservation: Systematic Review and Meta-Analysis." *PloS One* 11:e0166919.
- Ruiz-Ballesteros, E., and R. Cáceres-Feria. 2016. "Community-Building and Amenity Migration in Community-Based Tourism Development: an Approach from Southwest Spain." *Tourism Management* 54:513-23.
- Ryan, J., and S. Silvano. 2014. "A Study of the Key Strategic Drivers of the Use of the World Heritage Site Designation as a Destination Brand." *Journal of Travel & Tourism Marketing* 31:327–43.
- Saeedi, H., and K. Heidarzadeh Hanzaee. 2018. "The Effects of Heritage Image on Destination Branding: an Iranian Perspective." *Journal of Heritage Tourism* 13:152-66.
- Salvatore, R., E. Chiodo, and A. Fantini. 2018. "Tourism Transition in Peripheral Rural Areas: Theories, Issues and Strategies." *Annals of Tourism Research* 68:41-51.

- Sánchez, R. 2017. "Leisure-Tourism and Amenity Migration: Transformations Observed in the Semiarid Mountain Region of Northern Chile." *Journal of Tourism and Cultural Change*. doi: 10.1080/14766825.2017.1417992
- Sander, N., and M. Bell. 2016. "Age, Period, and Cohort Effects on Migration of the Baby Boomers in Australia." *Population, Space and Place* 22:617-30.
- Seyfi, S., C. M. Hall, and S. Kuhzady. 2018. "Tourism and Hospitality Research on Iran: Current State and Perspectives." *Tourism Geographies*, doi: 10.1080/14616688.2018.1454506
- Soltani, S., R. Saboohi, and L. Yaghmaei. 2012. "Rainfall and Rainy Days Trend in Iran." *Climatic Change* 110:187–213.
- Su, Y. W., and H. L. Lin. 2014. "Analysis of International Tourist Arrivals Worldwide: The Role of World Heritage Sites." *Tourism Management* 40:46–58.
- Su, M. M., G. Wall, and K. Xu. 2016. "Heritage Tourism and Livelihood Sustainability of a Resettled Rural Community: Mount Sanqingshan World Heritage Site, China." *Journal of Sustainable Tourism* 24:735-57.
- Trukhachev, A. 2015. "Methodology for Evaluating the Rural Tourism Potentials: a Tool to Ensure Sustainable Development of Rural Settlements." *Sustainability* 7: 3052-70.
- Tuulentie, S., and B. Heimtun. 2014. "New Rural Residents or Working Tourists? Place Attachment of Mobile Tourism Workers in Finnish Lapland and Northern Norway." *Scandinavian Journal of Hospitality and Tourism* 14:367-84.
- Vuin, A., D. A. Carson, D. B. Carson, and J. Garrett. 2016. "The Role of Heritage Tourism in Attracting "Active" In-Migrants to "Low Amenity" Rural Areas." *Rural Society* 25: 134-53.
- World Travel and Tourism Council. 2016. *Travel & Tourism Economic Impact 2016, Iran*. <https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2016/iran2016.pdf>
- Wuepper, D. 2017. "What is the Value of World Heritage Status for a German National Park? A Choice Experiment from Jasmund, 1 Year After Inscription." *Tourism Economics* 23:1114-23.
- Yang, Y., L. Xue, and T.E. Jones. 2019. "Tourism-Enhancing Effects of World Heritage Sites: Panacea or Placebo? A Meta-Analysis." *Annals of Tourism Research* 75: 29-41.

Table 1. Topics Addressed in Semi-Structured Interviews

Subsector: accommodation, food, transportation, tour guiding.

Duration: time since tour company, lodge, or business first established.

Income: main source, other employment, % from tourism, historical changes.

Migration: whether, where and why, people may have moved.

Water: effects of droughts, adequacy of water supplies, historical changes.

Enterprise structure: ownership, labour, family members, local residents, etc.

Culture: any changes, conflicts, differences, attitudes to tourists.

Training: role of Iran Cultural Heritage, Handcrafts and Tourism Organization.

Investment capital: sourced from family, village, city, loans, other.

Future: tourism demand, competition between suppliers, infrastructure, etc.

Women's roles: status at home, access to money, independence, satisfaction.

Table 2. Open Coding Tree

Tier 1	Tier 2	Tier 3
Migration	Past, rural-urban	people moved to city for survival especially younger people moved, eg when they got married schooling is another reason to move, village schools closing
	Present, urban-rural	reverse migration recent, widespread especially those who own village houses driven by tourism, but water also critical
Water	Critical resource	villages depend on water agriculture affected by drought
	Varies in availability	adequate in some villages, decreasing or poor in others a few villages use springs new resort will consume water restoring qanats needs funds
Commercial Context	Investors	most investors are locals, a few are outsiders or former locals locals don't like outsiders moving in, but can't stop it
	Profits	most profits go to Tehran agents, local share small lodges not highly profitable, still developing lodge operators don't rely only on tourism
	Demand & supply	tourist numbers increasing, optimistic for the future enough in most villages but not all some owners think more expansion needed concerns over regional reputation, not local competition
	Resort under development	Mahan Airlines resort in Malekabad conflicting rumours about design and scale concerns about consequences for locals
ICHTO	ICHTO Loans	ecotourism loans available, but some owners refused them heavily discounted interest, but slow and not easy to get rural building costs overestimated, so net cash opportunity
	ICHTO Advice	many respondents reported no involvement some took ICHTO advice or training courses
	ICHTO Permits	ICHTO permits needed concern over regulations
Cultural impacts	Interactions	locals are used to tourists now locals learn from tourists and enjoy the interactions

	Impacts	some social impacts, mainly from domestic tourists they leave rubbish and behave poorly
	Cultural changes	some behavioural changes, but not at home more material goods, clothing etc children less shy
Family Dynamics	Decisions	husband and wife joint decisions about ecolodge income
	Hiring	employ family members first, locals second cooking and handicrafts are important contributions
	Women's economic enterprises	womens' association for patch weaving set aside funds to repair qanats handicraft income belongs to women, husbands accept this women financially self-reliant as a result
	Women's freedoms	women have gained new freedoms from tourism they can travel, drive cars, speak at meetings they earn their own money and use it as they decide contributes to self-respect, enables self determination
	Social acceptance	there was some opposition but the women overcame it family opposition evaporated, men accept new female roles men as well as women now see it as an improvement

Figure 1. Local factors intercede between WHA listing and tourism outcomes

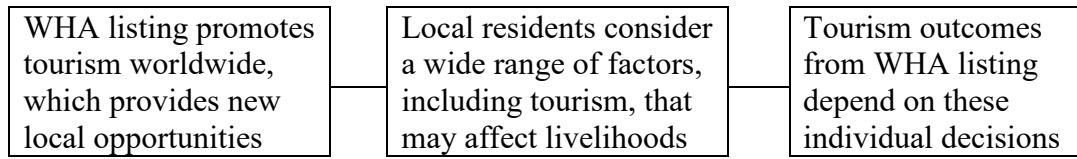
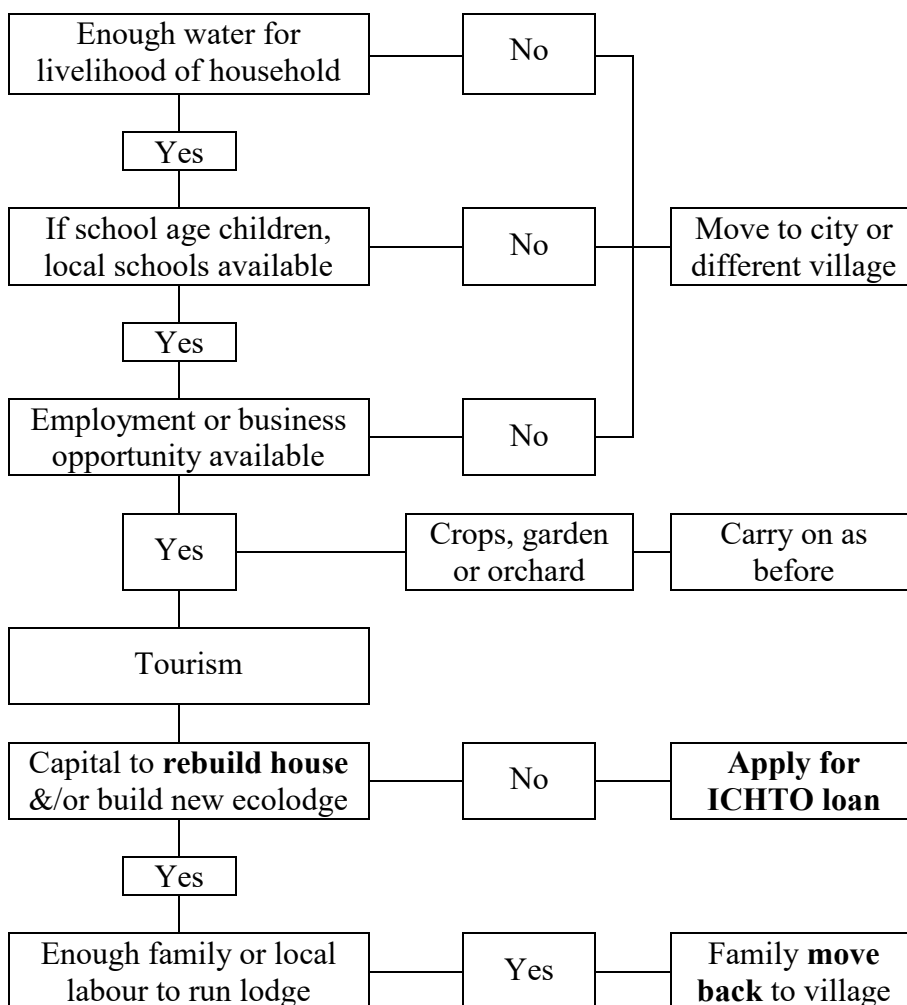


Figure 2. **Micro scale: Simplified livelihood decision tree for village households.**



Items shown in **bold** are key to reverse migration and successful tourism livelihood: existing village house, ecotourism loan, and family on site or able to return to village. **ICHTO, Iran Cultural Heritage, Handcrafts and Tourism Organization.**

Figure 3. **Macro scale:** World Heritage tourism triggers urban-rural reverse migration

