

DIAGNOSIS OF COMMON MITE IN CAT – A CASE REPORT



A clinical report presented in partial fulfillment of the requirement for
the degree of

Doctor of Veterinary Medicine

A Report submitted by

.....

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Registration No: 01835

Session: 2016-17

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Chattogram-4225, Bangladesh

November, 2023

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This is to certify that we have examined the above clinical report and have found that is complete and satisfactory in all respects.

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Table of Contents

ACKNOWLEDGEMENTS	5
ABSTRACT	6
CHAPTER-I	7
INRODUCTION	7
1.1: Background of the study	7
1.2: Objectives of the study	8
1.3: Justification of the study	9
CHAPTER-II	10
METHODS AND MATERIALS	10
2.1 Case History and Observations	10
2.2: Diagnostic procedure	11
2.3: Treatment application	12
CHAPTER-III	13
RESULTS & DISCUSSIONS	13
3.1: Result	13
3.2: Discussion	14
CHAPTER-IV	17
CONCLUSION AND RECOMMENDATION	17
4.1: Conclusions	17
4.2: Recommendations	17
4.3: Limitations of the study	18
REFERENCES	19
BIOGRAPHY	21

List of figures

Figures	Page no.
Figure- 1: Crust in facial region.....	10
Figure-2: Alopecia & Itching in body	10
Figure -3: Crust and Itching in Ear.....	10
Figure 4: Alopecia in head & Neck region.....	10
Figure-5: Skin scraping from cat	11
Figure-6: Egg of <i>Notoedres cati</i>	11
Figure-7: Adult <i>Notoedres Cati</i> & Egg.....	11
Figure-8: Adult <i>Notoedres Cati</i>	11
Figure-9: Lesion partially healing in head region at 7th day.....	16
Figure-10: Fig-10: Lesion Partially healing in body at 7th day.....	16

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The Author

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ABSTRACT

Notoedric mange (feline scabies) is a rare but highly infectious disease of cats and kittens caused by *Notoedres cati*, which can infest other animals as well as humans. The study objective was to determine the typical clinical signs, such as pruritus, alopecia, and skin lesions localized on specific areas, observed in a domestic cat affected by notoedric mange and application of ivermectin and lime sulfur dips and along with supportive care to alleviate pruritus, and document the response to treatment leading to the resolution of clinical signs and restoration of skin health. In the present study, a 2 years old female cat was brought to the Teaching and Training Veterinary Hospital and research center, Purbachal, Dhaka with the main complaint being a history of severe persistent pruritis, itching and seborrhea. The cat had scales, erythema, greasiness, alopecia, malodorous discharge from lesions, and hyperpigmentation upon clinical examination. The lesions were distributed across the face, ears, neck and abdominal region. Then Skin scraping was taken from the skin lesions at numerous points and processed in a 10% KOH solution. Microscopic analysis of the scrapings showed the presence of live adult mites with a round body, short legs, and long unjointed stalk with a sucker shorter limb stalks and a dorsal anus and their eggs (Reddy & Sivajothi, 2014). The cat significantly improved over the course of a week. The skin lesions began to heal, and the itching significantly decreased. On follow up examination the pet showed marked improvement and began recovery after a week of treatment but unfortunate it died due to severe dehydration and anemia. In the present study, injections of ivermectin @ 0.2 mg/kg body weight were sufficient to control the notoedric mange infection in the cat, whereas, lime sulfur dip also helpful to control the Notoedric mange in the cat.

Keywords: Cat, Ivermectin, Lime sulfur, Notoedres mites

CHAPTER-I

INRODUCTION

1.1: Background of the study

Notoedres cati which can opportunistically infest other animals, including people, is the source of the rare and highly contagious disease known as notoedric mange in cats and kittens (Reddy and Sivajothi, 2014). In comparison with *Sarcoptes* species, which have terminal anus, dorsal pegs, and spines, *Notoedres* mites are smaller, with dorsal striations resembling a "thumb print," shorter leg stalks, and a dorsal anus (Khoshnegah *et. al.*, 2007). Because *N. cati* mange is contagious, owners should use caution while handling their cats and seek prompt, appropriate medical attention (Chakrabarti, 1986). It has been reported that notoedric mange may cause high mortality in bobcats. The fatal case and recent infections in bobcat kittens from the same area highlight the significance of notoedric mange as a potential bobcat epizootic disease. Furthermore, notoedric mange in domestic cats is quite rare in the area, according to local vets (Peltier, 2014).

This study details the successful management of cat cases of notoedric mange using ivermectin therapy. Burrowing mites from the *Notoedres* genus (family Sarcoptidae) are the source of the skin disease known as notoedric mange, which is a painful and infectious condition. The *Notoedres* genus now has about 41 species recognised. Mammals of the orders Rodentia, Carnivora, Chiroptera, and Lagomorpha are afflicted by *Notoedres* mites (Stevanović *et. al.*, 2019). *Notoedres cati* is the earliest species in the genus (Hering's, 1838). Although it primarily affects cats, it has been reported to harm over 18 host mammal species, including humans, including insectivores, rats, lagomorphs, bobcats, procyonids, and vive rids. It is typically spread by direct touch and infrequently through indirect exposure to contaminated environments (Foley *et. al.*, 2016). The mite cannot survive outside of the skin; all life stages eggs, larvae, nymphs, and adults live within the skin. Intense pruritus and skin lesions as papules, baldness, erythema, excoriations, scales, crusts, and lichenification are seen in cats with notoedric mange (Györke *et al.*, 2022). Due to the cat's propensity for self-grooming and curled-up sleeping, the first lesions start on the edge of the ear pinna and quickly progress to the head, neck, and occasionally the legs and perineum. In cats, both young and old, untreated illnesses can be lethal. Macrocyclic lactones are an effective treatment for notoedric mange (Stevanović *et al.*, 2019).

This case report outlines the clinical presentation, diagnosis, and successful management of notoedric mange in a 4-year-old male domestic shorthair cat. By describing the course of the disease, diagnostic approach, treatment regimen, and clinical outcomes, this report aims to contribute to the understanding of this condition and guide veterinarians in managing similar cases effectively. Notoedric mange poses a diagnostic challenge due to its resemblance to other dermatological conditions, necessitating microscopic examination to confirm the presence of Notoedres mites. The treatment typically involves acaricidal therapy and supportive care to alleviate pruritus and promote skin healing.

The significance of this case report lies in its emphasis on the importance of prompt identification, treatment, and prevention of notoedric mange, thereby improving the prognosis and ensuring the well-being of affected feline patients. The successful resolution of this case serves as a testament to the efficacy of appropriate therapy and comprehensive care in managing this parasitic skin disease in cats.

1.2: Objectives of the study

To Present a Clinical Profile of Notoedric Mange in a Domestic Cat: The typical clinical signs, such as pruritus, alopecia, and skin lesions localized on specific areas, observed in a domestic cat affected by notoedric mange.

To Highlight the Diagnostic Process: The microscopic examination of skin scrapings in confirming the diagnosis of notoedric mange by identifying the presence of Notoedres cati mites.

To Detail the Treatment Approach and Outcome: application of ivermectin and lime sulfur dips and along with supportive care to alleviate pruritus, and document the response to treatment leading to the resolution of clinical signs and restoration of skin health.

To Emphasize the Importance of Timely Intervention: Stress the significance of prompt identification and appropriate acaricidal therapy in the successful management of notoedric mange to prevent its transmission within households and ensure the well-being of affected felines.

1.3: Risk factors

Cats with mange are highly contagious and need to be treated by a veterinarian as soon as possible to protect the health of the affected cat and prevent it from spreading to other cats. It is an infrequent illness with a very good prognosis. Rarely can *Notoedres cati* causes skin disorders in humans. It is unusual for *Notoedres cati* mites to infest humans because they typically prefer to live on cats. After the mite is treated in cats that have come into touch with them, most human skin diseases cure.

1.3: Justification of the study

Although Notoedric mange is relatively prevalent parasitic illness in cats, it is usually underrepresented in veterinary literature, and an individual case reports can help to improve understanding of this condition. A case report helps detailed examination of a specific incident, providing insights into its clinical presentation and care that might aid in comprehending the disease in a broader perspective. The article adds to the existing clinical knowledge base by recording a comprehensive case of Notoedric mange in a domestic cat. It provides essential details about typical clinical symptoms, diagnostic processes, and treatment responses in controlled, documented method, assisting veterinarians in recognizing and handling comparable situations. The report, acts as a learning resource, imparting knowledge about Notoedric mange's clinical signs, diagnostic methods, and successful management approaches. Notoedric mange, although primarily affecting cats, has potential zoonotic implications. In order to prevent any transmission of the disease to humans and other pets in the household, it is essential to record and understand the presentation and management of the disease in cats. This emphasizes the significance of early identification and prompt treatment.

CHAPTER-II

METHODS AND MATERIALS

2.1 Case History and Observations

A 2 years old female cat was brought to the Teaching and Training Veterinary Hospital and research center, Purbachal, Dhaka with the main complaint being a history of severe persistent itching and seborrhea. It was anemic and severely dehydrated. The cat had scales, erythema, greasiness, alopecia, malodorous discharge from lesions, and hyperpigmentation upon clinical examination. The lesions were distributed across the face, ears, neck and abdominal region. The previous treatment history was treated with Terbinafine Hydrochloride and Fluconazole but there was no improvement. Then skin scraping was taken from the skin lesions at numerous points for laboratory examination. Microscopic analysis of the scrapings in a 10% KOH solution and analyzed under a microscope for morphology, a round body, short legs, and long unjointed stalk with a sucker shorter limb stalks and a dorsal anus (Fig. 8). Based on the morphology, mites isolated from the cat were identified as *Notoedres cati* (Reddy and Sivajothi, 2014).



Fig-1: Crust in facial region



Fig-2: Alopecia & Itching in body



Fig-3: Crust and Itching in Ear



Fig-4: Alopecia in head & Neck region

2.2: Diagnostic procedure

Skin scraping and tape impressions were taken from the skin lesions at numerous points for laboratory examination. For the skin scrapings hair of the cats was removed over the sampling areas, and skin scrapings were made with a blade capillary oozing occurred. Immediately afterwards the removed material (e.g. hair and skin scrapings) was taken in a glass slide. Microscopic analysis of the scrapings showed the presence of live adult mites and their eggs. Moreover, skin scrapings were processed in a 10% KOH solution and analyzed under a microscope for morphology, a round body, short legs, and long unjointed stalk with a sucker shorter limb stalks and a dorsal anus (Fig.2). Based on the morphology, mites isolated from the cat were identified as *Notoedres cati* (Sinha *et al.*, 2023).



Fig-5: Skin scraping from cat

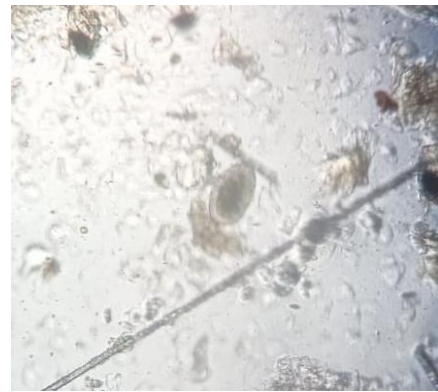


Fig-6: Egg of *Notoedres cati*



Fig-7: Adult *Notoedres Cati* & Egg



Fig-8: Adult *Notoedres Cati*

2.3: Treatment application

Based on the clinical signs and laboratory examination of samples the condition was confirmed as Notoedric mange. Treatment was started with administration of ivermectin @ 0.2 mg/ kg body weight in subcutaneous route for 1st and 14th day, along with lime sulfur dip @ 3ml/100 ml water which have antiparasitic and antimicrobial properties. The supportive therapy by subcutaneous administration of multi-vitamin and amino acid daily. To prevent allergic reaction oral administration of loratadine @ 0.5 mg/kg body weight and to control further ectoparasite infestation bathing was advised with shampoo containing benzoyl peroxide weekly once for 5 weeks. Significant clinical improvement was noticed after a week of therapy. Due to the severe dehydration the animal was suggested for fluid therapy (5% DNS). Efficacy of the drug was assessed based on the clinical recovery and examination of skin scrapings smears at weekly intervals of post therapy.

CHAPTER-III

RESULTS & DISCUSSIONS

3.1: Result

The cat improved noticeably over a period of a week. The pruritus reduced significantly, and the skin lesions began to heal. By the end of the treatment, the cat's coat had begun to regrow, and the lesions had healed completely. Following a week of medication, the pet showed significant improvement and began to recover.

N.cati infection is rare to uncommon in cat. The present study describes the clinical findings, diagnosis and therapeutic management of notoedric mange in a cat. Microscopically, skin scrapings revealed adult parasites of *Notoedres sp.* Round body, short legs, and long unjointed stalk with a sucker shorter limb stalks and a dorsal anus and ova. Thus, on the basis of history, clinical manifestations and evidence of parasites in skin scrapings, the cat were diagnosed as having *Notoedres* infection. The presence of crusts and scab lesions on the head, ears and around the face in the case is in agreement with the findings of earlier workers. The morphological characters were similar to those reported by (Sinha *et al.*, 2023). The cat was treated with the injection of ivermectin (0.2mg/kg body weight. s/c) at a 1st and 15th day and cat was treated with lime sulfur dip @ 3ml/100 ml water and to control further ectoparasite infestation bathing was advised with shampoo containing benzoyl peroxide weekly once for 5 weeks. The supportive therapy of antihistaminic oral administration of loratadine @ 0.5 mg/kg body weight and multi-vitamin and amino acid daily in subcutaneous route. In case of alopecia, erythema, scales, crusts, was and hyperkeratosis on the head and pinnae, and malodorous from lesions, on the other hand, correspond with previous experiences. The ivermectin, various medicines have been demonstrated to improve patient recovery in feline scabies. Due to its keratolytic action, and antimicrobial, anti-inflammatory, and sebostatic properties, the application of the Benzoyl peroxide shampoo was effective against pruritus and hyperkeratosis, the signs and symptoms reasons for consultation. (Park *et al.*, 2022). The pet showed marked improvement and began recovery after a week of treatment but unfortunate it dead due to severe dehydration and anemia.

It may be concluded that notoedric mange can be transmitted from rabbits to cats and vice-versa, if they are kept in common premises (Sharma *et. al.*, 2018). In the present study, injections of ivermectin were sufficient to control the notoedric mange infection in the cat, whereas, lime sulfur dip also helpful to control the Notoedric mange in the cat (Kumar *et al.*, 2023).

3.2: Discussion

N. cati, the feline sarcoptic mite, can infest cats of all ages. If treatment is not received, severe cases of the initial infestation in the head, ears, and neck may spread to other parts of the body and become lethal. This was also seen in the underlying study, where the general health of the cats with significant infestations decreased to the point where it was necessary to exclude them from the study or even where deaths were reported. The significance of a successful treatment for cats is highlighted by the possibility for severe illness result and zoonotic potential following intense contact, which can cause papulovesicular lesions accompanied by severe itching in humans (Galdhar *et. al.*, 2020). Doramectin (Dectomax® Injectable solution containing 1% w/v doramectin, 10 mg/mL, Pfizer Animal Health Ltd.) was administered subcutaneously at weekly intervals to the cat for four weeks. Apex Ltd. Zincovit (Zincovit drops, Apex Ltd. It includes Vitamin A (as palmitate) 2500 I.U., Vitamin E (dl-tocopheryl acetate) 2.5 I.U., Cholecalciferol (Vitamin D3) 200 I.U., Thiamine Hydrochloride 1 mg, Riboflavin Phosphate Sodium 1 mg, Pyridoxine Hydrochloride 0.5 mg, D- panthenol 1 mg, Nicotinamide 10 mg, Ascorbic Acid 40 Ciprofloxacin ear drops (Cyprin-D Intra Labs, ciprofloxacin 0.3% and dexamethasone) were used two times a day for five days after cleaning with warm sterile saline. Clinical examination of the skin scrapings was performed once a week to determine treatment response. After five days of post-therapy, the cat's ear returned to normal, with no exudation. After the second week of therapy, skin scrapings from the same locations tested negative for mites. The cat was free of pruritus and skin problems, and its overall health improved (Reddy and Sivajothi, 2014).

Previous treatment scheme using ivermectin have been replaced by the off-label use of other avermectins (Hellmann *et al.*, 2013). However, no product is 14 authorized in several European countries, and reports of kittens dying suddenly have been made in relation to the administration of ivermectin (Merck Veterinary Manual 1998). Although ivermectin is also effective against

mites, some people have experienced negative effects. A study recommended a subcutaneous injected dose of 400 g/kg body weight. After 5 weeks of this weekly dose, no adverse effects were reported (Udainiya et al. 2018). Similarly, another study reported weekly parenteral administration of ivermectin 10% at a dose of 200 g/kg body weight for 21 days. The pruritus was still present on day 14 after using the previous protocol, although the alopecia and crusty patches were decreased in size (Reihii et al., 2019).

Ivermectin is known to block interneuronal activation of excitatory motor neurons at two or more sites, resulting in flaccid paralysis. According to recent evidence suggests that Ivermectin may exert its effect with glutamate-gated Cl ion conductance at the postsynaptic membrane or neuromuscular endplate (Adams, 2001). Within a few hours of their initial contact with diseased cats, humans will acquire acute pruritus in the absence of mite burrows. This cutaneous condition was caused by prolonged contact with infested cats. When cats were separated from humans, the lesions in infested people improved (Chakrabarti, 1986.). If the skin infection is ignored, notoedric mange spreads to the face and eventually the entire body (Khoshnegah *et. al.*, 2007)). The entire body of the cats in the present study was covered in mange lesions. For the purpose of diagnosing notoedric mange in cats, the typical pattern of itching and hair loss was often sufficient (Khoshnegah *et. al.*, 2007).

According to morphology, mites from the infected cat were identified as *N. cati* (Reddy & Sivajothi, 2014). Hence the cat was treated with administration of ivermectin @ 0.2 mg/ kg body weight in subcutaneous route for 1st and 14th day, along with lime sulfur dip @ 3ml/100 ml water which have antiparasitic and antimicrobial properties. The supportive therapy by subcutaneous administration of multi-vitamin and amino acid daily. To prevent allergic reaction oral administration of loratadine @ 0.5 mg/kg body weight and to control further ectoparasite infestation bathing was advised with shampoo containing benzoyl peroxide weekly once for 5 weeks. The clinical recovery and weekly post-therapy skin scraping examinations were used to evaluate the drug's effectiveness. On the 7th day following medication, the cat's clinical examination revealed that the pruritus had partially improved and that the scales had disappeared. But before completely recovery the cat died due to severe dehydration and anemia. The owners were advised to use hot water to wash all inanimate objects, such as bedding, towels, and bowls for watering and feeding the cats, which had come into contact with cat. It was also advised to spray the floor and walls with disinfectant monthly twice. No adverse reactions were observed after the treatment with

parental ivermectin at 7th day. The recovery was began at 7th day in the present study indicated the benefit of ivermectin therapy in cats for the management of feline scabies.



Fig-9: Lesion partially healing in head region at 7th day



Fig-10: Lesion Partially healing in body at 7th day

CHAPTER-IV

CONCLUSION AND RECOMMENDATION

4.1: Conclusions

The present study reported the *Notoedres cati* was in a domestic cat with seborrhoea and pruritus. Administration of ivermectin @ 0.2 mg/ kg body weight in subcutaneous route for 1st and 14th day, along with lime sulfur dip @ 3ml/100 ml water which have antiparasitic and antimicrobial properties (Crystallography, 2016). The supportive therapy by subcutaneous administration of multi-vitamin and amino acid daily. To prevent allergic reaction oral administration of loratadine @ 0.5 mg/kg body weight and to control further ectoparasite infestation bathing was advised with shampoo containing benzoyl peroxide weekly once for 5 weeks successfully cured the rare clinical condition in cat.

4.2: Recommendations

Veterinary practitioners should emphasize the importance of early detection of notoedric mange. Pet owners should be educated about the signs and symptoms of the condition, comprehensive education on the risk factors, transmission, and preventive measures for notoedric mange, encouraging them to seek veterinary care promptly if they suspect their cat may be affected. Further research and development of more efficient and accurate diagnostic techniques for notoedric mange are recommended. This might include advancements in diagnostic tests, such as PCR-based methods or more sensitive skin scraping procedures, to enhance early and accurate diagnosis. These guidelines should focus on environmental decontamination, isolation of affected animals, and protocols for minimizing the spread of the mites. This knowledge could aid in the development of more targeted therapies or preventive measures. Establish monitoring systems to track the prevalence and geographical distribution of notoedric mange. This data can help identify emerging trends or outbreaks, enabling swift intervention and control measures. Foster collaboration among veterinary professionals, researchers, and institutions globally to share

information and findings related to notoedric mange. This collective effort can accelerate progress in understanding, treating, and preventing this condition.

4.3: Limitations of the study

The study has some limitations. As notoedric mange is rare in Bangladesh this study is done in one infected cat. Also there are some limitations in follow-up data collection, animals improvement observed at 7th day of follow up but unfortunately the cat was died at the time of follow up, it is potentially impacting the ability to evaluate the long-term efficacy of the treatments or interventions applied.

REFERENCES

- Crystallography, X. D. (2016). Mange in the Bobcat, *Felis rufus*, from south texas. 18(1), 1–23.
- Györke, A., Dumitrache, M. O., Ursache, A. L., D’Amico, G., and Mircean, V. (2022). Case Report: Notoedric Mange and Aelurostrongylidosis in Two Domestic Cats From Rural Environment in Romania. *Frontier in Vet. Sci.*, 9(June), 1–8.
- Hellmann, K., Petry, G., Capari, B., Cvejic, D., and Krämer, F. (2013). Treatment of naturally notoedres catiinfested cats with a combination of imidacloprid 10 % / moxidectin 1% spot-on (advocate® / advantage® multi, bayer). *Parasitology Research*, 112(1 SUPPL.).
- Kumar, V. V. V. A., Manjusree, M., and Sai, T. R. (2023). Successful therapeutic management of notoedric mange in a Persian Kitten : Case report. 8(5), 173–174.
- Peltier, S. K. (2014.). Sarcoptic mange in black bears (*Ursus americanus*) in Pennsylvania by sarah knox peltier (Under the Direction of Michael J. Yabsley).
- Reddy, B. S., and Sivajothi, S. (2014). *Int. J. of Vet. Health Sci. & Res. (IJVHSR)* ISSN 2332-2748 Notoedric Mange Associated With *Malassezia* in Cats. 02, 18–20.
- Reihii, J., Warson Monsang, S., and Ozukum, S. (2019). Clinical management of notoedric mange (Feline scabies) in domestic cats: A case report. *The Pharma Inn. J.*, 8(3), 306–308.
- Khoshnegah, J., Jamshidi, S., Rahbari, S., and Ashrafihalan, J. (2007). A case report of notoedric mange infestation in a 3-month-old pointer. *Iranian J. of Vet. Res.*, 8(2), 184-185.
- Sinha, S., Maiti, S. K., Ratre, H. K., Raj, L., and Bante, N. (2023). Notoedric mange in cats : It ’ s treatment and zoonotic importance: *The Pharma Inn. J.* 12(7), 2061–2062.
- Stevanović, O., Vujanić, D., Dobrijević, M., Nedić, D., and Trbojević, I. (2019). Notoedrosis in a Household Cat - Case Report. *Arch. of Vet. Medicine*, 12(2), 39–47.
- Udainiya, S., Tiwari, A., Singh, B., Shukla, P. C., and Bendigeri, S. (2018). Notoedric mange in a cat: a case report. *Int. J Chem. Stud.*, 6(6), 152-153.

Chakrabarti A. (1986). Human notoedric scabies from contact with cats infested with *Notoedres cati*; *Int. J. of dermatology*, 25(10), 646–648.

Adams HR (2001) *Veterinary pharmacology and therapeutics*, 8th edn. Iowa state university press, Ames, pp 1025–1029.

BIOGRAPHY

I am **Md. Manjurul Islam**, son of **Md. Abdus Salam and Mst. Monzuara**. I passed the Secondary School Certificate examination in 2014 with GPA - 5.00, and also Higher Secondary Certificate examination in 2016 with GPA-5.00. Now I am an intern veterinarian under the Faculty of Veterinary Medicine in Chattogram Veterinary and Animal Sciences University. In my future, I would like to work as a veterinary practitioner and do research on clinical animal diseases in Bangladesh.