

## BAB V

### KESIMPULAN DAN SARAN

Dalam upaya menemukan jawaban penelitian “*Bagaimana upaya IHA dalam membantu Tiongkok melakukan pengembangan tenaga air berkelanjutan di Sungai Yangtze?*”, penelitian ini menggunakan beberapa kerangka pemikiran, yaitu teori neoliberal institusionalisme, konsep *water security*, dan *sustainable energy*. Neoliberal institusionalisme digunakan untuk melihat upaya IHA untuk membantu Tiongkok mencapai kepentingannya yaitu untuk mempertahankan energi airnya. Konsep *water security* dan *sustainable energy* digunakan sebagai kepentingan Tiongkok untuk mengembangkan tenaga airnya secara berkelanjutan.

Pembahasan penelitian ini diawali dengan pembahasan Tiongkok mengembangkan tenaga airnya di Sungai Yangtze, dengan mengetahui pembentukan perusahaan milik Tiongkok yang menangani tenaga air, yaitu China Three Gorges (CTG) dan China Institute of Water Resources and Hydropower Research (IWHR). CTG sendiri merupakan perusahaan energi bersih terbesar di Tiongkok dan salah satu perusahaan pembangkit listrik tenaga air terbesar di dunia. CTG merupakan perusahaan yang fokus kepada pengembangan dan pengoperasian pembangkit listrik tenaga air berskala besar. Sementara IWHR merupakan lembaga penelitian nasional di bawah Kementerian Sumber Daya Air China yang melakukan pengelolaan sumber daya air untuk daerah aliran sungai besar dan perlindungan lingkungan air, penelitian IWHR terakhir terkait tenaga air di Sungai Yangtze adalah mengenai mekanisme siklus karbon dan dampak lingkungan perairan di *Three Gorges Dam* (TGD). Tiongkok juga memiliki kebijakan sungai yang

bernama *China River Policy* (CRP) untuk mengkoordinasikan pengelolaan sungai yang terfragmentasi dengan menerapkan sistem pemimpin sungai (*river leader system*). Pembangunan tenaga air di Tiongkok pada tahun 2013-2020 juga selalu mengalami peningkatan di bidang lingkungan, sosial, teknis, dan juga ekonomi, dimana dinyatakan bahwa Tiongkok merupakan produksi tenaga air terbesar di dunia.

Penelitian juga membahas upaya International Hydropower Association (IHA) sebagai asosiasi yang fokus kepada pengembangan tenaga air internasional. Dimulai dari latar belakang dibuatnya yaitu karena pembangkit listrik tenaga air sendiri memiliki prospek besar karena memiliki kapasitas terbesar dibandingkan sumber energi terbarukan lainnya sehingga penting untuk dibuat asosiasi internasional bagi negara-negara yang mengembangkan tenaga air. Upaya IHA dalam skala internasional tercermin pada *Hydropower Sustainability Assessment Protocol* (HSAP), yaitu sebuah protokol yang dapat dijadikan acuan untuk mengembangkan tenaga air berkelanjutan. Terdapat empat tahapan yaitu Tahap Awal, Persiapan, Pelaksanaan, dan Operasi, setiap tahapan memiliki empat topik besar yaitu lingkungan, sosial, teknis, dan finansial. Penelitian ini menggunakan acuan dari IHA untuk menganalisis perannya terhadap pengembangan tenaga air di Tiongkok.

Jawaban pertanyaan penelitian adalah terdapat empat upaya IHA dalam mengembangkan tenaga air berkelanjutan di Tiongkok. **Upaya pertama** adalah mengadakan World Hydropower Congress di Beijing yang memuat empat topik dalam HSAP. Perspektif lingkungan dibahas melalui penyediaan keamanan energi hijau sehingga dapat meminimalisir dampak lingkungan, perspektif sosial dibahas

dengan mengangkat permasalahan transmigrasi di Tiongkok agar dapat diambil pelajaran oleh negara lain dan berhubungan dengan perspektif teknis karena masalah transmigrasi berdampak kepada kesejahteraan masyarakat, di lain sisi pengembangan tenaga air merupakan hal esensial karena masyarakat sangat bergantung kepada pembangkit listrik tenaga air. Pembahasan finansial dibahas dengan memaparkan manfaat ekonomi dari pengembangan tenaga air dan berkolaborasi dengan aktor dari sektor keuangan untuk membahas daya beli pengembangan tenaga air di masa yang akan datang. **Upaya kedua** adalah melakukan kolaborasi pelatihan untuk mengembangkan pembangkit listrik tenaga air di Tiongkok dalam bidang Perencanaan, Konstruksi & Manajemen Operasi Pembangkit Listrik Tenaga Air Kecil & Menengah dan Manajemen Pengelolaan Pengadaan Tanah, Pemukiman Kembali dan Rehabilitasi (MLARR). Pelatihan tersebut bertujuan untuk memperkuat Sistem Manajemen lingkungan mereka sehingga proyek bendungan di Sungai Yangtze dapat diminimalisir dari segi ekologi, lingkungan, sosial, dan penggunaan teknologi. **Upaya ketiga** yang dilakukan IHA adalah melakukan penelitian gas rumah kaca di Sungai Yangtze dengan melakukan kolaborasi dengan CTG. Tujuan penelitian fokus kepada lingkungan yaitu untuk mendeteksi peningkatakn emisi gas rumah kaca kotor akibat pengembangan tenaga air. Dari perspektif sosial, dibahas mengenai risiko untuk meminimalisir transmigrasi di masa yang akan datang. Penerapan pedoman untuk memperkuat alat deteksi (G-res) merupakan salah satu hasil dari perspektif teknis dalam penelitian ini, alat tersebut berhubungan dengan finansial karena G-res dapat dimanfaatkan secara ekonomi dan layak digunakan untuk pengembangan

berkelanjutan. **Upaya keempat** adalah memberikan rekomendasi yang mencangkup seluruh perspektif lingkungan, sosial, finansial, dan teknis. IHA telah merekomendasikan untuk meningkatkan penyimpanan pam-hidroelektrik yang berdampak kepada lingkungan, teknis, dan finansial karena dapat memproduksi tenaga air lebih banyak dan ramah lingkungan. Rekomendasi lainnya adalah terkait permasalahan sosial mengenai transmigrasi.

Dari inti pembahasan tersebut, dapat dilihat bahwa Tiongkok sendiri sudah berusaha semaksimal mungkin untuk melakukan pengembangan berkelanjutan dalam proyek tenaga airnya dengan membuat badan-badan tenaga air dan membuat kebijakan sungai, tetapi hal tersebut belum maksimal sehingga masih terjadi permasalahan terutama di bidang lingkungan dan sosial. Maka, butuh upaya lebih dari IHA sebagai asosiasi internasional yang fokus kepada pembangunan tenaga air berkelanjutan di dunia. IHA memiliki sebuah protokol berskala internasional yaitu *Hydropower Sustainability Assessment Protocol* (HSAP) yang memiliki empat perspektif, yaitu lingkungan, sosial, finansial, dan teknis. Seluruh upaya yang dilakukan IHA sesuai dengan empat perspektif yang ada di dalam HSAP. Namun, terdapat batasan upaya oleh IHA, karena IHA berperan sebagai *outsourcing conceptor* dalam membangun PLTA yang berkelanjutan, sementara Tiongkok sebagai *thinker* dan *worker* yang tetap mengambil keputusan di akhir.

Dalam hal ini, penulis dapat menyimpulkan bahwa upaya IHA telah membantu Tiongkok untuk mengembangkan tenaga air yang berkelanjutan. Namun, upaya terbesar masih berada di tangan Tiongkok. Meskipun berbagai upaya telah dilakukan, masih terdapat permasalahan banjir dan transmigrasi dalam

mengembangkan tenaga air, hal ini menunjukkan masih terdapat ruang untuk perbaikan walaupun sudah ada upaya baik dari Tiongkok dan IHA. Maka dari itu, penulis menyarankan untuk meneliti akar permasalahan yang dialami oleh Tiongkok dan mencantumkan hasil penemuannya terhadap HSAP agar terdapat upaya-upaya baru yang dapat dilakukan untuk mengembangkan tenaga air secara berkelanjutan.

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